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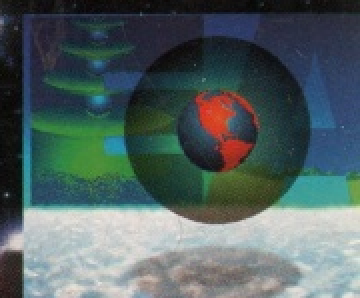
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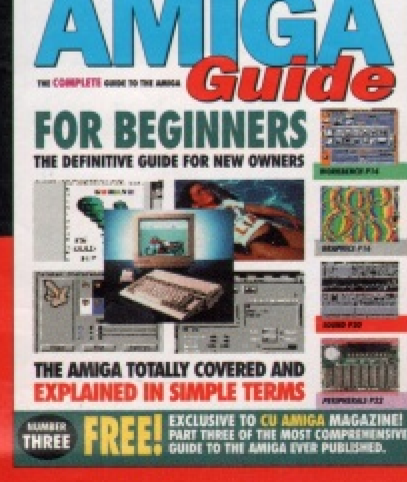
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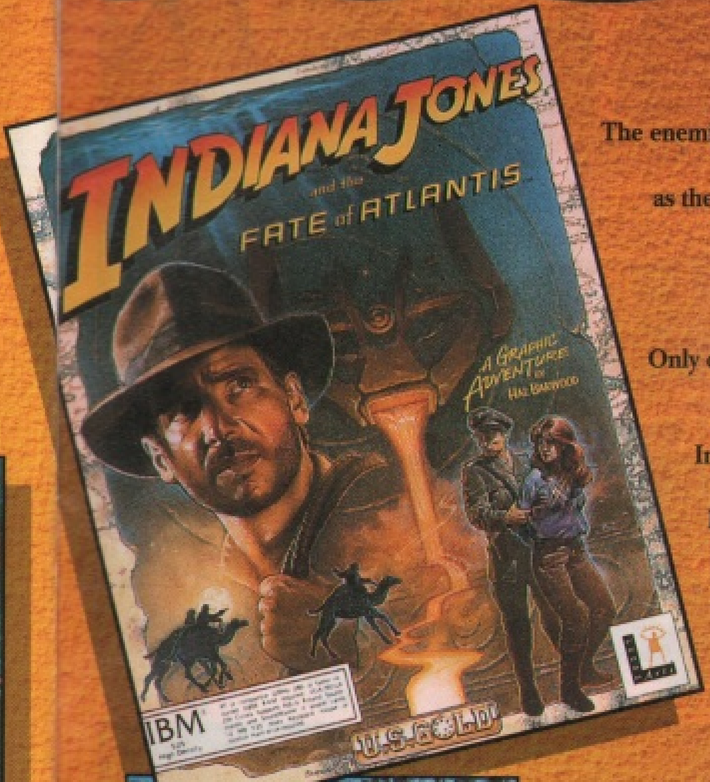
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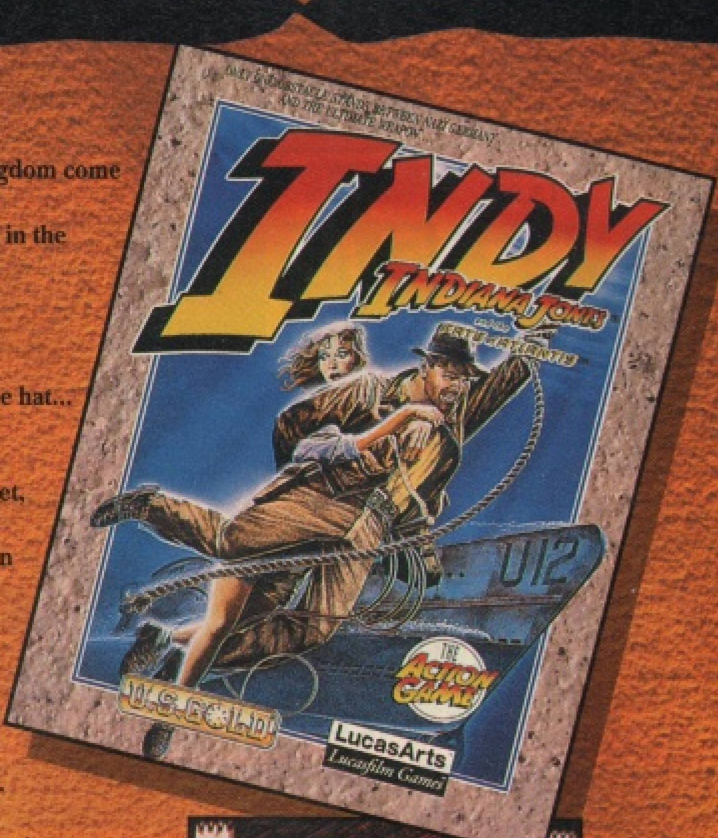
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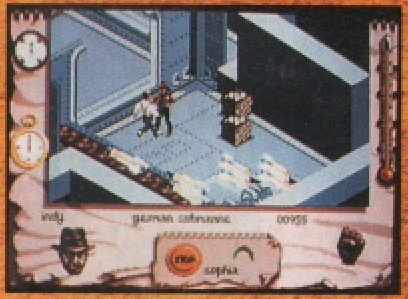




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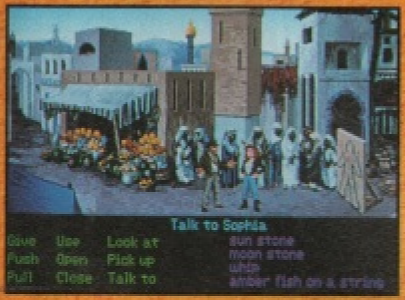




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Individually, they're the hottest property this side of Atlantis.

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Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specification.

INDIANA JONES® and the FATE of ATLANTIS™

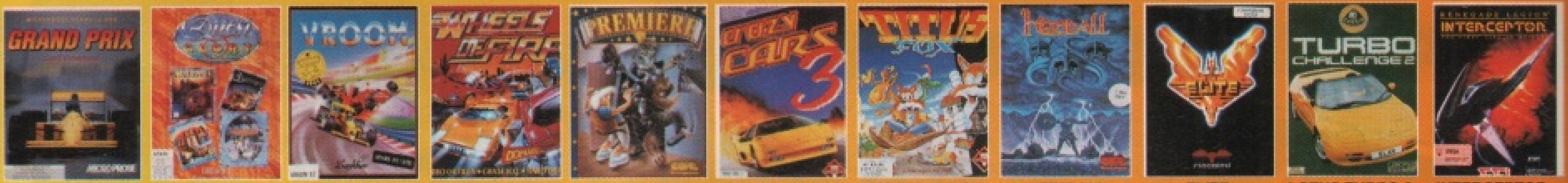
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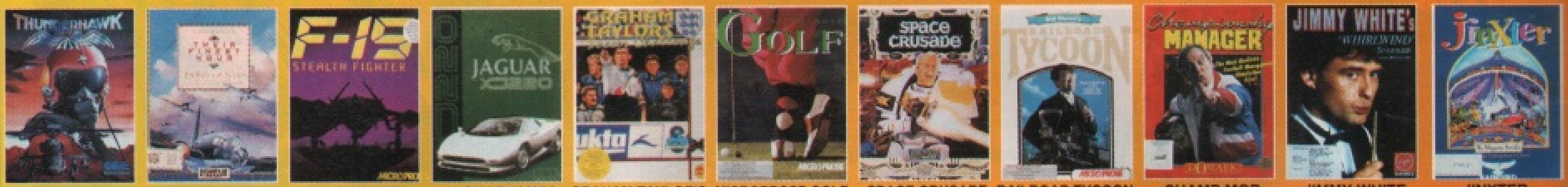
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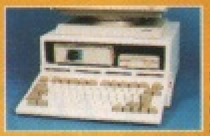
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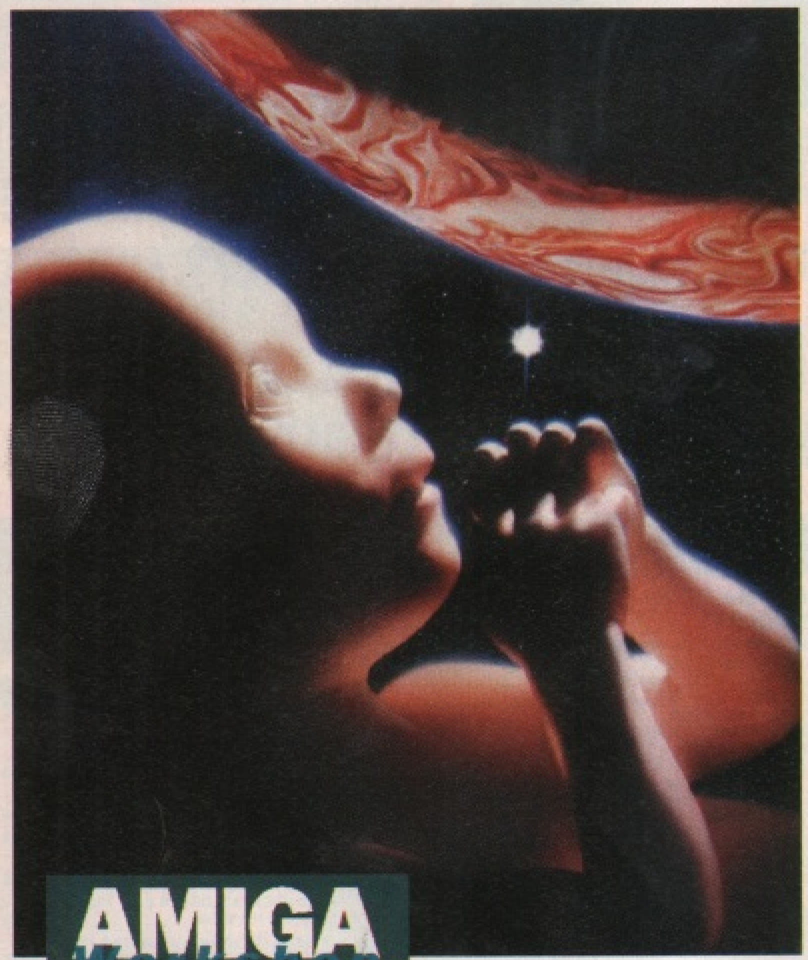


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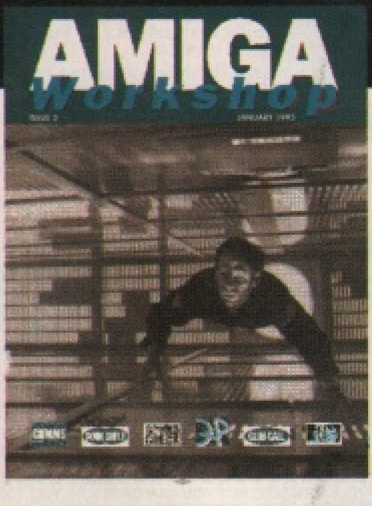
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CU AMIGA invites you to join them in a voyage of discovery as we travel into the near-future and take a look at what technical advances Amiga-owners can expect to see during the course of 1993 and beyond! With reports from the recent shows in Cologne and Las Vegas, plus our top ten predictions for the coming year, this is the place to read about what Commodore and everybody else has in store for the world's best home computer. In addition, we've also got a month-by-month review of 1992 as well as the final results of our own Fat Agnus awards. So join us as we hand out the plaudits for Amiga excellence during the last year.



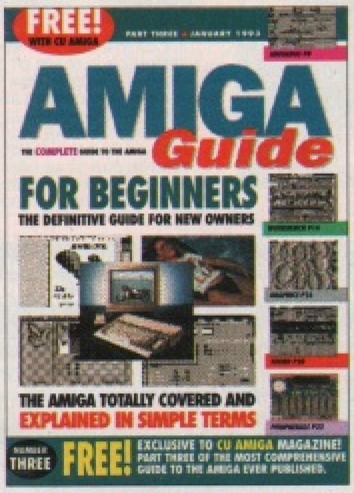
163 AMIGA WORKSHOP

If you're interested in more than just games, then this is your new-found spiritual homeland, as each issue we delve into the more serious side of Amiga computing. Here, you'll find a wealth of advice about all things Amiga, written by our team of experts. For instance, John Kennedy continues his excellent C tutorial, Bookshelf reviews the latest Amiga specific books, our Comms column checks out yet another Bulletin Board and Club Cpoints you in the right direction if you want to contact like-minded individuals in your local-

SPECIALS

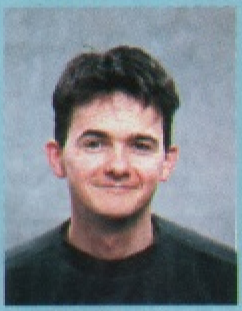
AMIGA GUIDE NO.3

This month, our free 32-page edition of Amiga Guide concentrates on those of you who are new to the Amiga and want to find out a bit more about the marvellous machine you have just purchased. Written by our very own technical editor, Amiga Guide aims to gently ease you in to the wonderful world of home computing. Even if you've been using an Amiga for years, there's bound to be something new to learn here, as we explore the Amiga's operating system, its hardware and software.



OFF THE CUFF

EDITORIAL


Dan Slingsby – Editor

We've got a packed issue for you this month, beginning with an exclusive review of the new *Deluxe Paint IV AGA*, the updated paint and create program from Electronic Arts especially geared to take advantage of the new AGA graphics chipset that's to be found in both the A1200 and A4000. It's another marvellous advance in Amiga graphic capabilities and Peter Lee, our resident graphics expert, gives us his own authoritative opinions on the new program on page104. But that's not all we've got on offer, as our reviews of *Videomaster*, *Wordworth 2* and the new Canon BJ-200 testify. On the games front, we've got a packed issue, with reviews on the new Lucasfilm adventure, *Indy 4*, and the 'surprise' hit, *Street Fighter 2*. Yes, I know I said I thought this one would be a complete money waster, but the review on page 58 definitely proves me wrong. It's not the greatest coin-op conversion in the world, but it's certainly the best beat 'em up ever to grace the Amiga – fact!

There's a lot more on offer within these feature-packed196 pages, such as a sneak preview of the gobsmacking new CDTV products on the way from Psygnosis and a look at the work of Tobias Richter, one of the premier artists currently working with the Amiga. We've even added an extra 32-page Amiga Guide so new readers can start to explore the inner most workings of their magnificent new machines. I hope you enjoy it.

Before I go, I'd like to thank all our loyal readers for their continued support throughout 1992. I hope you've enjoyed the last year as much as I have, and will join us again for what promises to be a most exciting 1993. The Amiga is only going to get better and better, and we'll be there to cover every new development. So, on behalf of all of us here on CU, I'd like to wish all of you a very happy and peaceful New Year.

REGULARS

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GET SERIOUS

ITY REVIEW . **PRODUCTIVITY REVIEWS** . PRODUC

There's no let up as we get off to a flying start in the first issue of 1993. Don't miss our exclusive reviews of *V-Lab PAR*, the excellent digitiser that will now work with the A600 and A500+, *Deluxe Paint IV AGA*, Canon's new BJ200 printer and Microdeal's answer to everyone's multimedia prayers, *VideoMaster*.



Deluxe Paint IV AGA is reviewed by Peter Lee on page 104.



Videomaster combines a video digitiser with a sound sampler. Amazing review on page 108.

SCREEN SCENE

ME REVIEWS . **GAME REVIEWS** . GAME REVIEW

With previews of *Batman, Soccer Kid* and *Body Blows*, we point you in the direction of the hottest games of '93. In the meantime, we also have reviews of the best games available for the festive season including *Indy 4, Street Fighter 2, Gunship 2000* and *KGB*.



At Last! It's here. *Street Fighter 2* on the Amiga and it's a blinder! Page 58.

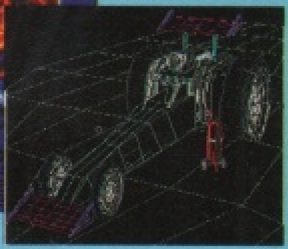


Lucasfilm's latest adventure, *Indy 4*, gets the CU treatment on page 48.

COVERDISKS

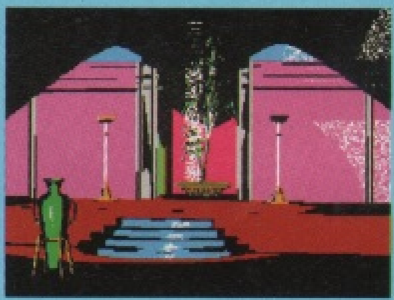
Our January coverdisks are absolutely packed with programs and games. Exclusive demos of *Alien³* and *Walker* are backed up with a superb 3D graphics tool! Wow.





DISK 48

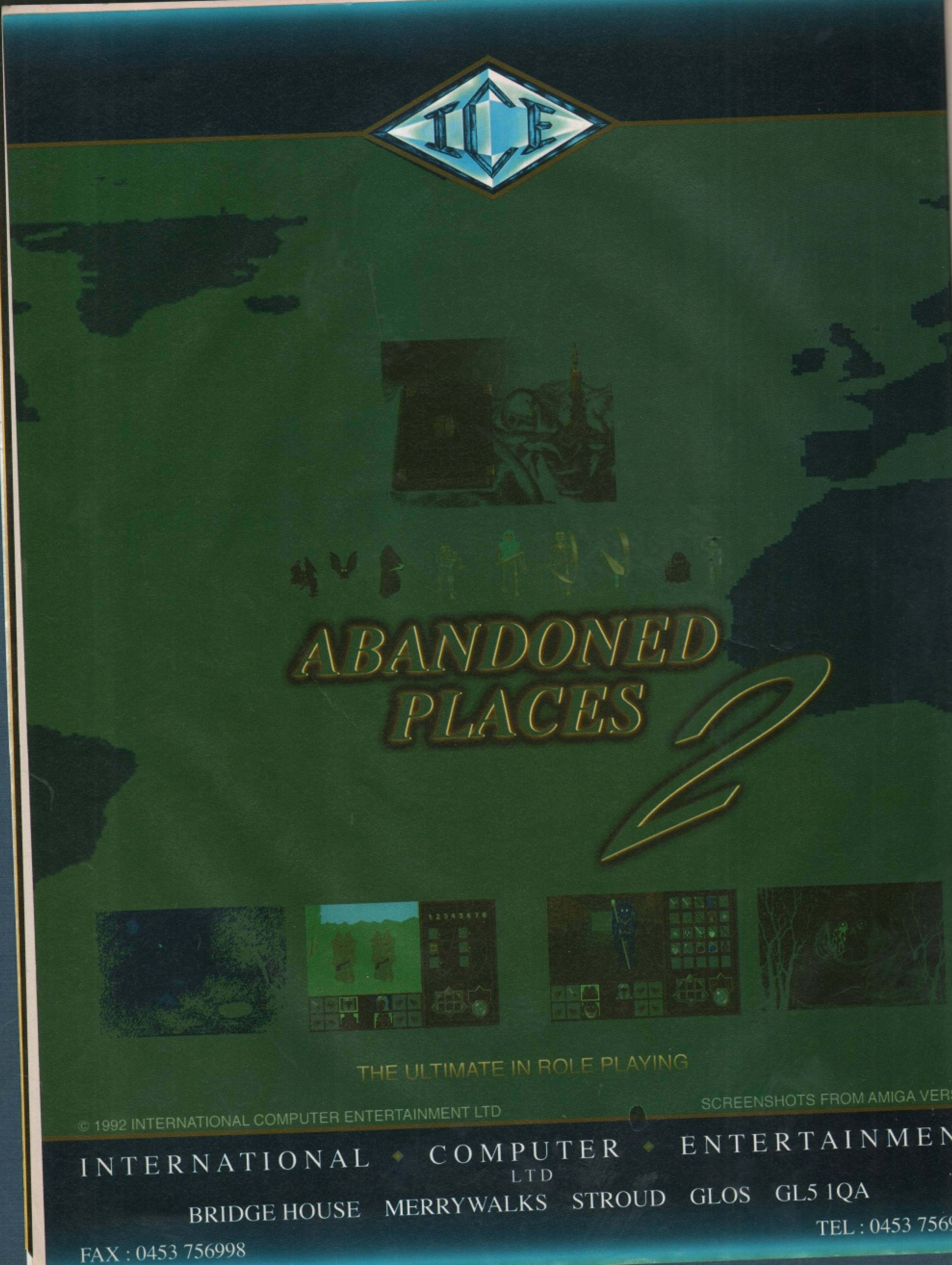
Working miracles once again, we've crammed a full 2-disks of commercial software onto one, and still found room for another two superb utilities, plus a neat stress-relieving card game. *Expert 4D Jnr.* headlines the disk. A complete, fully functioning, professional 3D modelling and animation package, *Expert 4D* will have you sculpting, rendering and animating in a matter of minutes. With quick and easy object design features, even a complete beginner can knock up scenes at the drop of a hat, and it's powerful enough to give the experienced 3D modeler scope to run riot. Also on disk you'll find a disk optimiser, to speed up all your hard and floppy disk operations, a customised replacement for the standard AmigaDos dialogue boxes, and no less than six variations on the solitaire card game theme. And that's only the first disk.





DISK 49

This month's games disk is definitely our best so far, as we've got two cracking playable demos of the hottest games around. *Alien³* is Acclaim's licensed conversion of the hit movie and our huge level taken from the game puts you in charge of Ripley as she has to run around the claustrophobic corridors of the prison, killing as many aliens as possible and rescuing the many prisoners who have been strung up awaiting the aliens' attention. Our other game, *Walker*, is a shoot 'em up from DMA Design, the team behind *Lemmings*. Taking control of a state-of-the-art human killing machine, it's up to you to pilot the craft around the massive play area, creaming off an entire platoon of soldiers and as much state-of-the-art hardware as possible. This is one demo you won't finish in a hurry.


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NEWS

PRO PAGE 4.0

Now shipping is the latest version of *Professional Page 4.0.* As well as providing an update for 3.0 users who experienced variable levels of difficulty using it on the A4000, the new version has many completely new features. For a start owners of the AGA chipset machines will be able to use the new 256 colour display mode.

There will be direct Gif Tiff and EPS support with on-screen previews. Previously EPS files were allowed, but were rather difficult to position accurately since no preview was generated on the screen. Along with EPS support *ProPage* can now directly support files from Adobe Illustrator (the Mac equivalent to *Professional Draw*).

Among the more useful features are the ability to edit pages in side by side mode, and (at last) a user defineable zoom between 10% and 400%.

For those of you who really need it, there is now a 'post it note option'. Small yellow labels can be attached to the layout, to give information instructions for the bureau etc., but they will not appear on any print outs. Although this may seem terribly gimmicky, it is potentially very useful. Look out next issue for an exclusive preview.

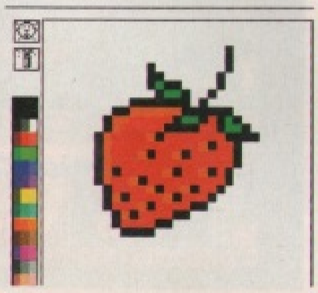
EPSON FLATBED SCANNER

New from Epson is their GT6500 colour A4 flatbed scanner. The scanner is provided with driver software from ASDG, making it compatible with any Amiga that's equipped with enough RAM to accommodate the chosen scan sizes and resolutions. It's also supplied with a sheet-feeder for bulk OCR work, and a transparency adaptor for DTP and DTV work. The 24-bit scanner can output colour images to a resolution of 1200 DPI, and has 256 grey scales for mono artwork, OCR and CAD uses. HB Marketing are handling the Amiga package, priced at £799 excluding VAT, and can be contacted on 0753 686000.



KID PIX

Electronic Arts are set to distribute a paint program aimed specifically at children. *Kid Pix*, developed by Broderbund, aims to take advantage of a child's natural creative impulses and harness them through an easy-to-use program that's capable of quite outstanding results. Created by Craig Hickman for his three-year-old son, Ben, *Kid Pix* uses a simplified user-interface loaded with fun features so that even the youngest of children can use it with ease. There are over 20 Wacky Brushes which enable the user to create eleborate drawings and special effects. There's also a talking alphabet feature which identifies a letter and then lets you incorporate it into your picture and a variety of special sound effects which accompany every brush and too. In addition, there are also over 100 'rubber' stamps to create instant pictures with, an electronic mixer capable of creating weirdo screen transformations and a special eraser option.



INTERNATIONAL KARATE 2

With beat 'em ups enjoying something of a renaissance on the Amiga, thanks to US Gold's excellent conversion of *Street Fighter 2* and Team 17's forthcoming *Body Blows* game (subject of a two-page in development feature in this very issue!), it looks like Archer MacLean's aging classic, *IK+*, is set to be updated. Long regarded as the best beat 'em up ever produced for the Amiga, the four year old game is looking a bit dated these days. Although nothing could be confirmed as we went to press, a reliable source has it that the new game could be published by System 3, and that Archer Maclean WON'T be involved in its design or coding. indeed, when we contacted Archer he knew nothing about the new game. We'll keep you posted.



A600/A1200 HARD DRIVES

Trilogic have announced a range of hard drives for the A600 and A1200. The IDE devices use the machines' internal drive bays, connecting with a supplied cable. The pre-formatted drives have a quoted boot-up time of seven seconds on an A1200, based on tests of the 60Mb unit. All the drives come with a 12 month warranty, priced as follows: 20Mb £119.99; 40Mb £169.99; 60Mb £199.99; 80Mb £249.99; 120Mb £349.99. Trilogic can be reached on 0274 691115.

SIM CITY 2000

Maxis have just confirmed that they will be converting their long-awaited sequel of *Sim City* to the Amiga. It was touch and go for a while, but with the launch of the A1200 and the marketing push being given to the entire Amiga range by Commodore, Maxis have decided that there's life in the old machine yet. The new game, following on from the huge success of the original, is going to be absolutely enormous with more options than the Stock Market. The first game involved piecing together an entire city from various customised blocks such as housing, industrial and power squares, and then keeping things ticking over as well as coping with the odd natural catastrophe or two. It's generally considered to be one of the classic games on the Amiga, and the new supercharged sequel will offer many more options as a city's entire infrastructure comes under your control. For further info, contact Maxis' UK distributor, Mindscape, on 0444 482545

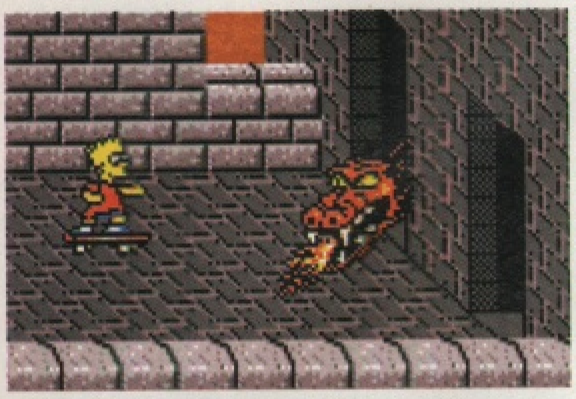
GAMESMASTER LIVE! SHOW IS HUGE SUCCESS

If you were lucky enough to attend the Gamesmaster Live! event at the NEC at the beginning of December, then you'll already know what a humdinger of an event it was. Sega had a huge go-kart track, Anco had a special beat-the-goalie competition and Commodore had a massive games arcade with a selection of all the latest Amiga and CDTV games to play. Electronic Arts had built a huge head-to-head *Road Rash* game featuring real motorbikes and Virgin had a Quasar laser game up and running. There was lots more on offer, too, as the show took up three of the NEC's massive halls. In all, more than 74,000 people attended the show, and plans are already being drawn up for an even bigger and better show next year.



BIG ANTI-PIRACY STRIKE

In a major anti-piracy strike, more than 3,500 illegal Amiga disks were recovered from a raid at the notorious Barrowlands market in Glasgow. An ELSPA-appointed detective carried out the raid, backed up by three bodyguards and three police officers. The raid is all the more important because of the stranglehold pirates have had in Glasgow, a situation not helped by the ineffectiveness of Scottish law. Only Virgin are left as a games retailer in Glasgow as a result of the widespread pirating of disks in the area.



SIMPSON MANIA

Just as you thought it was safe to walk the streets again in a Bart-free zone, you're going to have to run for cover once again as the gangly youngster with the high-rise haircut is about to hit the Amiga. First up is *Bart vs The World*, which involves a treasure hunt around the globe for Bart and his family as they set out to get rich quick. Only trouble is, everyone else wants a piece of the action too, so each location is positively packed with opponents to clobber and nasties to mash beneath your skateboard. *Bart vs The World* is due to be released by Acclaim in February '93.

At the same time, Acclaim will also be releasing *Krusty's Super Fun House* featuring Bart's favourite hero, Krusty the Clown. A huge platformer, the game's scenario involves Krusty in a mad dash around his honeycombed house trying to rid his home of an invasion of rats. With a number of deadly rat traps at his disposal, including a 20,000 volts raygun, things are made more difficult by a motley assortment of flying pigs (!), snakes and tooled-up aliens. Developed by Audiogenic, *Krusty's Super Fun House* is set to appear in late February, 1993.

JASON AND THE ARGOSTICK

Bored of playing with that old joystick-shaped joystick? Fancy something a bit different? Here's something that might appeal: Cheetah's Argostick. Modelled along the lines of the sets from the Alien films, it's intended to inject a bit of spice into your gaming sessions. It's based around the classic pistol-grip design, available in two forms: the cheaper of the two is a high tactile version, selling for £12.99, while the second is microswitched and includes an autofire option, retailing at £14.99. Contact Cheetah on 0222 867777.



CANON PRINT STUDIO

For those of you who were interested in our review of the Canon Print Studio last month, the intermediate version of the program (which works exclusively with Canon printers) is now available from Jeff Walker at 75 Greatfields Drive, Uxbridge, UB8 3QN. Tel: 0895 274449 for further details.

NEWSROUND

VIRTUAL REALITY CONSOLE ON THE WAY

W. Industries, the leading Virtual Reality specialists, are reported to be developing a lightweight version of their VR helmets for use with a new hi-tec console due for release at the beginning of 1994. They are also rumoured to be working on a system which will make the new helmet adaptable to almost any computer format, so the possibility exists for Amiga owners to experience VR first hand in the very near future. More news soon.

A600 AND A1200 PRICE RISES

Due to rising chip prices, caused by Sterling's recent fall against the Dollar, from 1st January 1993, both the A600 and the A1200 packs will have their retail prices raised by £30 to £329.00 and £429.00 respectively. The rest of the Amiga range will be unaffected, remaining at their previous price levels.

HARD DRIVE FOR CDTV

ZCL have just released the DATAPAC, a 65Mb external hard drive for the CDTV. Styled in black impact-resistant plastic, it has an internal 240 volt PSU, cooled with its own internal fan. Power and activity LEDs are included, with a pair of SCSI ports to allow chaining of additional hard drives. All the necessary connecting cables and installation software come as part of the package. The DATAPAC retails for ú349.99 including VAT. Contact ZCL on 0543 414817.

WORD PROCESSING FOR KIDS

Childsplay is an attempt by Helios Software to introduce word processing to kids. With the help of big bold type, colour graphics and speech synthesis, Helios aim to get the younger members of the family interested in reading, writing and computing. So flexible is the program, according to Helios, that it is suitable for anyone from 2 to 12 years! This bold claim is backed up by the promise of three types of voice for the speech, the ability to make your own picture puzzles and overlay text on graphics, plus a user-friendly interface. *Childsplay* retails at £24.95 and is available from Helios on 0623 554828.

COMPILATION CRAZY

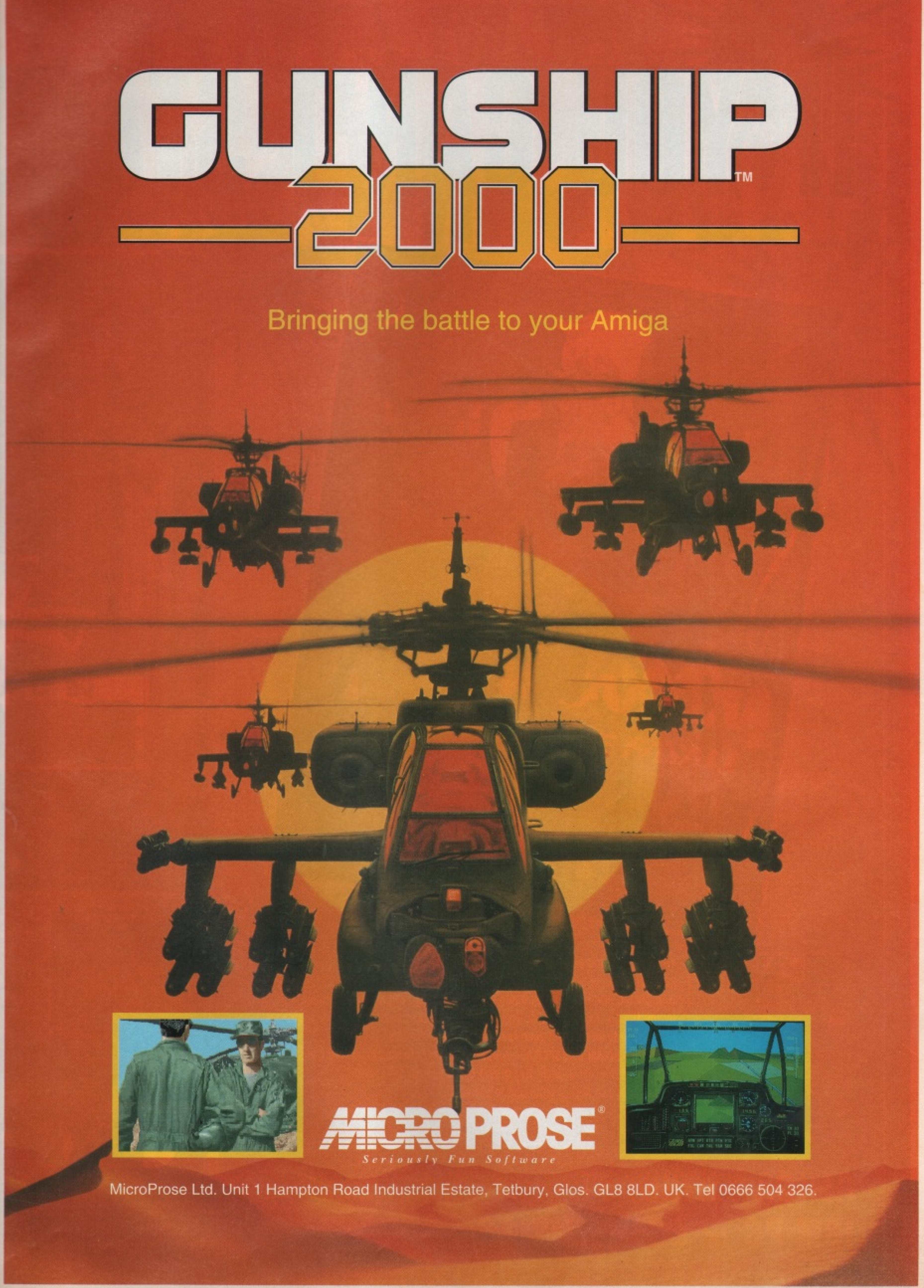
With the festive season almost over and Aunty Mabel's gift vouchers burning a hole in your pocket, now is the time to take advantage of one of the many compilation packs that have just been released to help relieve you of your Christmas cash. Best of the bunch are two offerings from French outfit, Ubisoft. Fantastic Worlds features five classic games: *Populous*, golden oldie *Pirates, Wonderland, Realms*, and the sadly neglected *Megalomania*. And what's more, all these brilliant games can be yours for just £35.99. If strategy games are your thing, then Ubisoft's second offering is also a bit of a doozy, featuring no less than five top-notch brain-strainers. For a measly £32.99, *Spirit of Excalibur, Chessplayer 2150*, the excellent *Hunter, Deuteros* and *Populous* (again) are included.



Ocean have also muscled in on the action, with two compilations based around their first *Wrestlemania* WWF game. Super Fighter features the aformentioned WWF beat 'em along with *Pit-Fighter* and *Final Fight* and The Dream Team is made up of *Terminator 2, Bart vs. the Space Mutants* and *WWF*. US Gold also have a compilation out, this time concentrating on platform action. Raving Mad features *Rodland, Robocod* and *MegaTwins*.

Entertainment International, meanwhile, have released what they call a Combat Classics pack featuring such award-winning military sims as *F15 Strike Eagle 2, Team Yankee* and *688 Attack Sub*. Amiga price: £29.99. Also on offer from the Basildon-based company is another compilation pack, Sports Masters, which includes golfing classic, *PGA Tour Golf*, racing game *Indianapolis 500*, Infogrames' *Advantage Tennis* and soccer sim, *European Championship 1992*. Again, the pack costs £29.99. As they say, the choice is yours!




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IF YOU CAN'T STAND





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But Holli's dream is to shed her Doodle indentity... to become a real woman - with a real interest in Jack! Her dream could destroy both worlds.

Kiss goodbye to Jack... and hello to oblivion!

AMIGA - ATARI ST -
IBM PC & COMPATIBLES

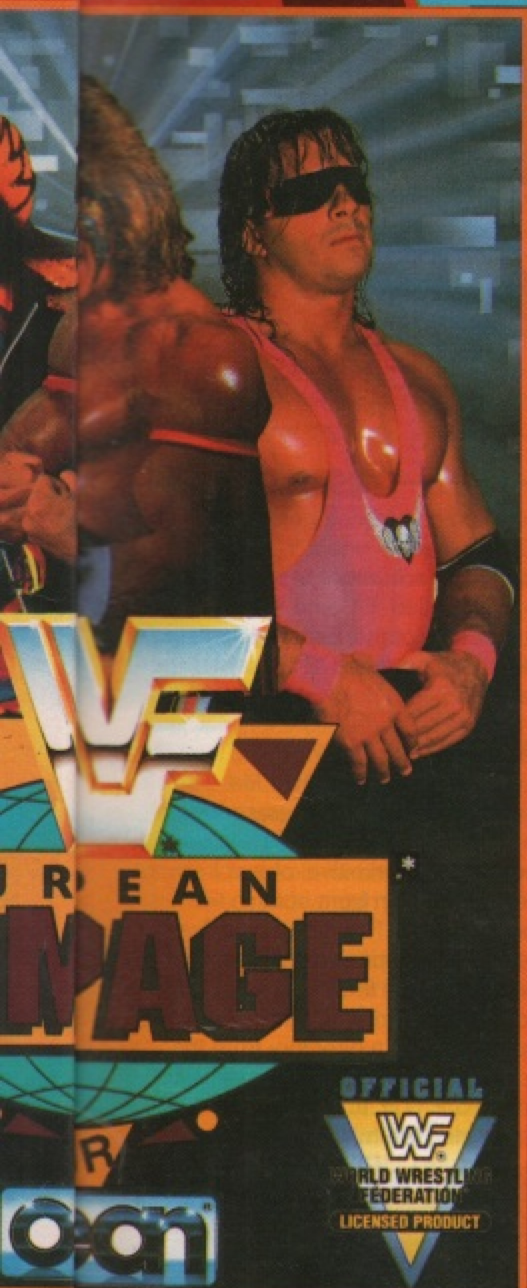




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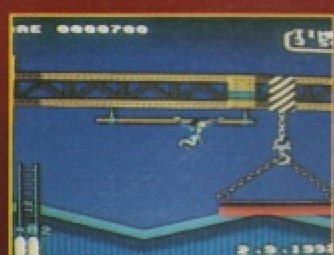
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THE HEAT





Once aga* Superstars unite for the grand European Rampage your favourites, Hulk Hogan**, Ultimate Warrior* and many travel across Europe to square off in the ring against the Natural Disasters* and the Nasty Boys*. Watch the ared circle. Follow them to the Grand Finale Match at are Garden in New York City. Test your strength and skill our team-mate to achieve the ultimate goal - the Europe* Tag Team Title.

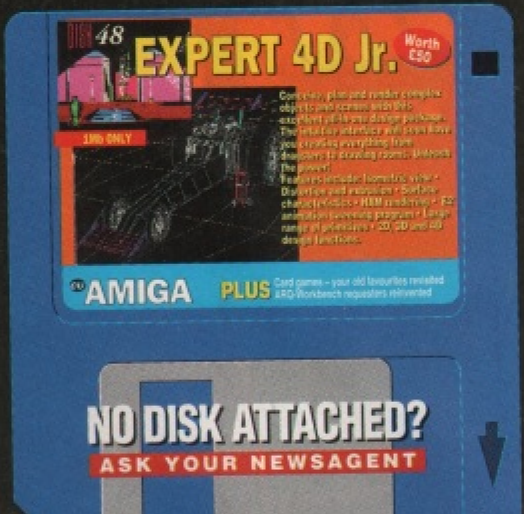


A multi-level shoot 'em up based on aspects of all three LETHAL WEAPON movies. You can choose to be either one of the two high fire-power cops... each having his individual strengths - and weaknesses! There are many missions to complete including the rescue of a kidnapped girl, the persuit and arrest of drugs runners, finding and arresting a police murderer, plus many more. You choose the level to suit your objectives within the game-play.
It's mean, fast and... LETHAL!

ocean

CASTLEFIELD, MANCHESTER. M1 5LN
061 834 0650

Coverdisk 48 is awash with handy utilities and even a full 3D modelling program, Expert 4D Junior, to help you design and animate 3D images. Along with that program we've given you ARQ, a helpful tool used to change all those annoying disk messages to something much more user-friendly; Re-org for optimising disks by sorting files and drawers, and finally, Card Games, for those long winter nights by the fire.



COVERDISKS

EXPERT 4D junior



Double click the 'E1' icon to load the modeller module, then load one of the demonstration objects from the second disk.

WHAT'S WHAT

Expert 4D Junior is a full-featured, fully usable 3D modelling and animation program. It needs 1Mb of RAM to perform its more basic tasks, but it really likes more than that if you're using it to its full potential. Although *Expert 4D Junior* is very powerful, it's also rather more user-friendly than some other 3D modeling programs, so you shouldn't have too much trouble getting started. Here's a step-by-step guide to help you get going.

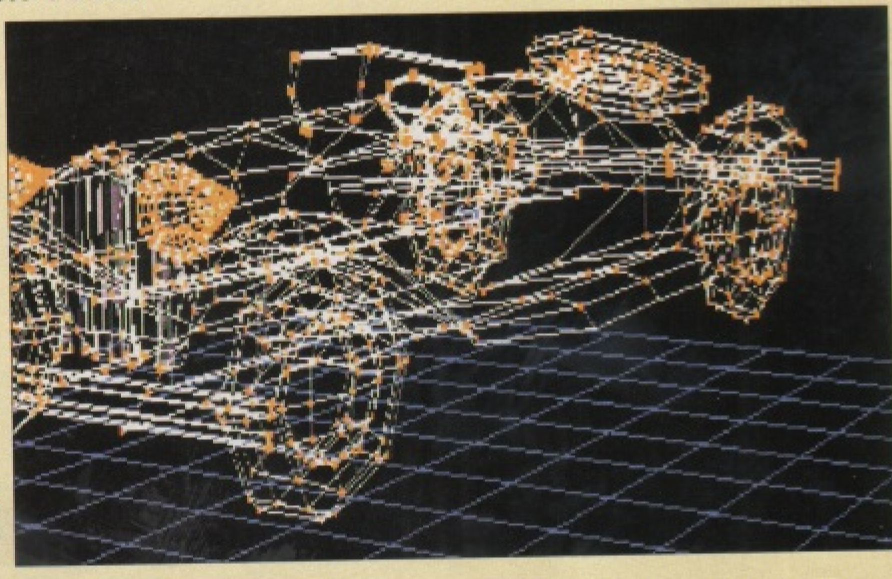
Once you've unarchived Disk 48, you'll end up with two more disks. The first is named Expert_4D_Junior, the second is titled Maquettes1.3 (don't ask us why!). Insert the first of your two new disks in the internal drive, put the second disk in any other available drive if you have one, and reset the machine. After a few seconds, the computer will reboot to the Workbench screen. Double-click on the Expert_4D_Junior icon, and you'll be presented with a window containing a number of new icons. Among them are two entitled 'E1' and 'E2' – these are the two main modules of the *Expert 4D system.* Double-click the icon marked 'E1' to enter the object creation module.

THE MODELER

This is where all your objects begin their life. The screen starts out with just a 3D grid representing the floor area for your scene. You can fill it in one of two ways: either select a 'primitive' object from the menus, or create your own from scratch with the '2D -> 3D' sub-module.

For now, let's see what's possible with the modeller by loading up one of the demo files. Select 'OPEN' from the FILE menu, and a file requester will pop up, getting a directory from the main *Expert 4D* program disk. Bear with it, then click in the box marked PATH, and delete any text and punctuation (ignoring the misleading colon that can't be deleted). Type 'df1:' [RETURN] if your second disk is in the first internal drive. If you only have a single floppy drive, remove the first disk and replace it with the second, then type 'DF0:' [RETURN].

Either way, you should now have a directory listing of the *Expert 4D* data disk. Select any file that has a '.maq' extension, and click on the OKAY

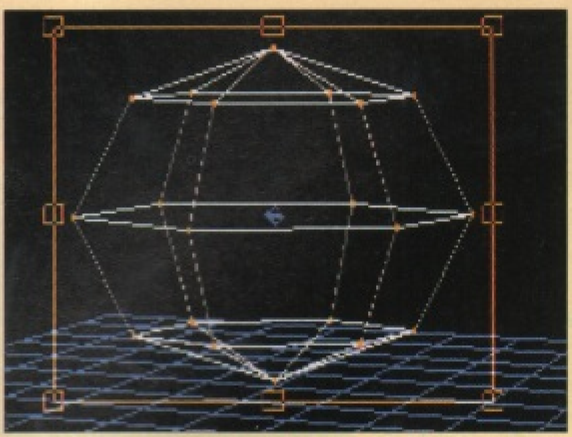


For speed, all the objects are displayed as transparent wireframes at the modeling stage.

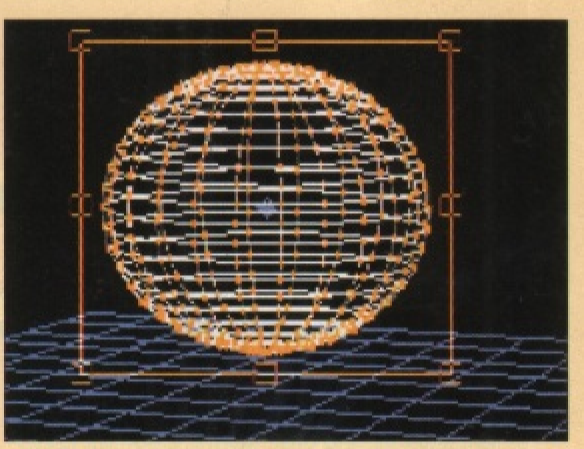
LOADING COVERDISK 48 Before you can access any of the programs on Disk 48, it must be unarchived. This expands the compressed data onto two new disks, which can then be used as normal. Before you begin, make sure you have two spare write-enabled disks to hand. There's no need to format them. Open the write protect tab on your coverdisk, and boot it by reseting the machine. Double-click on its icon, and then on the 'Ex4D1' icon. Insert your first spare disk at the prompt, and replace the coverdisk once it's done. Repeat the procedure, this time clicking the 'Ex4D2' icon, and inserting the second spare disk. Reset and boot with your first unarchived disk.



Clear the scene and you can start on your own creations. After selecting a 'primitive' object from the menus, you need to define the resolution of its mesh. In other words, the number of points and lines that it's made up from.



Here's a sphere with a low-rated mesh. As you can see, it doesn't look very round, but fewer lines mean faster rendering and more available memory.



On the other hand, a sphere with a high-rated mesh does look a lot more realistic, and the results are worth the expenses of time and memory.

button. You should now see your selected object drawn out in wireframe 3D. At this stage, you won't see it fully rendered (drawn in light-sourced colour), because this is only the design module. You could go straight to the rendering module, and render one of the demo objects, but as the rendering process takes quite a while, it's probably best to knock up a few objects of your own while you're in the modeler section.

PRIMITIVES

Before you start building objects yourself, go up to the PROJECT menu and select NEW. This will clear the scene, ready for your impending masterpiece.

There are two ways you can build objects. The first method is to use the basic blocks available from the menu, which are known as primitives. These include cubes, spheres, two-dimensional planes, disks and so on. Select one of these from the MODELLING menu, and you'll be asked to define its 'mesh'. This is the number of points and lines the object will be made up from. A sphere with a low rated mesh will look more like a diamond, but with a high rated mesh the curves are far more convincing. The advantage of using a lower rated mesh is that you save memory, and you also save time when you come to render your objects.

2D TO 3D

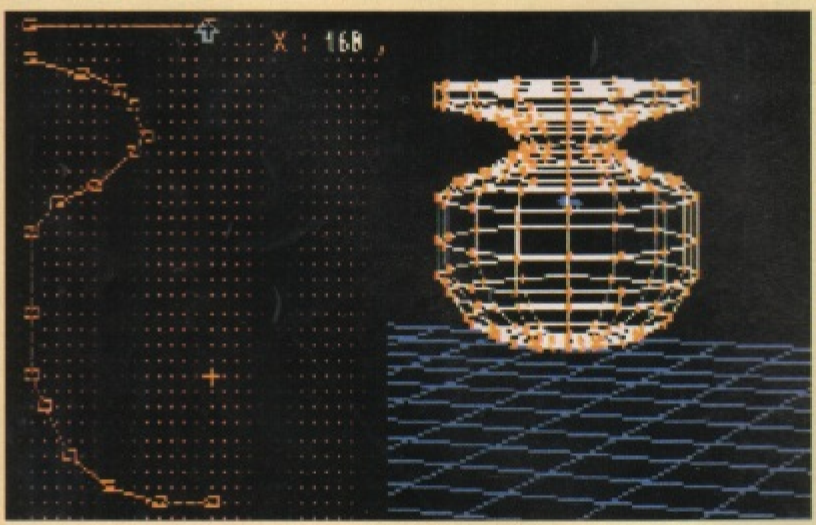
The alternative to the primitives is to use the '2D -> 3D' option from the MODELING menu. You can now draw out a 2D plan of your object by clicking on the grid with the left mouse button. Let's have a go at making a vase, using the very useful SPIN option.

1. Select '2D -> 3D' from the MODELLING menu.
2. Move the mouse pointer to about an inch below the central position marker.
3. Click the left mouse button once, and move two or three dots to the left, before clicking again.
4. Continue to trace the profile of a vase, as shown in the screenshot, remembering to just draw half of the outline, stopping at the top. Do not join the start and end points of the outline.
5. Double-click on the last point to exit draw mode.
6. Move up to the 3D menu and select EXTRUDE/SPIN
7. Use the sliders to select the density of the mesh for your vase.
8. The view will have now jumped back to the 3D scene, where your beautiful vase is on show in glorious vector-vision.

INTERIOR DESIGN

So you've got yourself a wireframe vase. What are you going to do with it now? At the moment, it doesn't have any colour or texture assigned to it, so the first thing is to sort this out from the ATTRIBUTE menu. Once you've done that, you can drag it into the corner of your 'room', and set about designing the rest of your scene.

Objects such as tables and chairs are better constructed from the primitives. Choose a cube from the available blocks, and scale it by clicking on the small boxes that sit on the surrounding highlight. Drag these with the mouse to scale it in the X, Y, or Z axes. Using the JOIN function from the MODELLER menu, combine various shapes and sizes of cuboids and spheres until you come up with something you're fairly happy with. Once you've got a scene all set up, save it out with the SAVE AS option from the FILE menu. It's best to save it to a pre-formatted blank disk, but there's a bit of space left on the second disk if you don't have one to hand.



Far left: **An alternative method of creating objects is to use the 2D -> 3D option. Draw a profile of a vase, and use the SPIN option.**
Left: **And here it is in all its three dimensions.**

COLOUR ME BAD

Now it's time to render your scene in full light-sourced colour. Exit the modeller program, and load the 'E2' module by double-clicking its icon.

Unlike the modeller, the rendering stage isn't menu driven. Instead, it's all worked by a small collection of buttons. Click on FILE to open an animation or scene. Wait until the drive light goes out, and then insert the disk with your scene on it. Click in the PATH box, delete all the text, and type 'DF0: [RETURN]'. You should now see your file appear in the requester box. Click on it, and then on the OKAY button.

You'll now be back on the main screen. From here you can choose how you want your scene rendered. Bearing in mind that a full size HAM screen can take up to around three hours to render, you might like to make a few test runs first with the lower grade modes. There are three main parameters that define the quality and speed of the rendering.

First is the type of render: wireframe, polygon, or pixel. Wireframe mode displays the scene as in the modeller, polygon adds hidden line removal and basic colouring, and pixel renders the scene with proper light-sourced colour. Next, there's the resolution, which can be low, medium or high, and HAM mode can be toggled on and off. Finally, there's the size of the image. This can be the size of a postage stamp (not much good for anything but very simple objects), quarter-screen size, full screen or overscan.

After you've done a few test renders, click the RECORD button, and select the rendering modes you want for the final picture. Then click on OKAY, and your image will be rendered, then saved to disk as an IFF file. Remember that it can take a matter of hours to render a scene, so don't think you've crashed the machine if nothing seems to be happening.

After it's all done, you can load your IFF picture file into any art package, such *as Deluxe Paint.* Next month, we'll move on to animation and more advanced modelling techniques.



...some time later, you'll end up with something like this: a light-sourced collection of pottery.

IF YOUR DISK WON'T LOAD In the unlikely event of your CU Amiga coverdisks not loading, remove all cartridges and peripherals, double check that you've followed the instructions exactly, and try again. If they still won't load, pop the offending disks in an envelope and send them to: CU DISK RETURNS, PC WISE, DOWLAIS TOP BUSINESS PARK, MERTHYR TIDIL, MID-GLAMORGAN, CF48 2YY. They will then test your disk and send a replacement as soon as possible. For any urgent problems though, please ring the PC Wise helpline on 0685 350505. This line can be reached between the hours of 10.30 and 12.30 weekdays. Whilst CU Amiga makes every effort to check our coverdisks for all known viruses, we can accept no responsibility for possible damage caused by viruses which may have escaped our attention.

ARQ



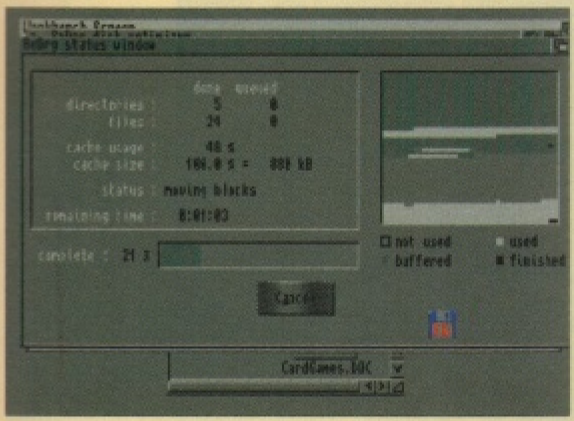
'Please replace volume Empty in any drive...' 'Disk not validated...' 'No disk in unit DF0:...' those mind-warping messages buzzing around your head all night long – it can't be doing you any good. As if that wasn't bad enough, you're forced to click on a box marked 'Okay' just to get rid of the bloody things. Well it's not okay! We want to click on boxes marked 'P*ss off!', 'Go away!', 'Shut up!', 'I don't care!', and 'I know, you've told me 300 times already!'. In fact, what we need is a copy of *ARQ*, which just happens to be on Disk 48, free with this very issue.

ARQ is intended to be incorporated into the start-up sequence on your Workbench disk or hard drive. This involves copying the files ARQ and EXPLODE.LIBRARY into the C: and LIBS: directories respectively, and adding the line:

RUN >NIL: ARQ

just before the LOADWB command at the end of your start-up sequence. For further details on editing your startup-sequence, consult your AmigaDos manual.

As it stands, you can't run ARQ directly from the coverdisk, but you can access the doc files. Open the ARQ drawer, and double-click the ARQ.doc and CHANGES icons for all the technical details, which will tell you how to tag your own samples onto the dialogue boxes, thus giving your machine the ability to ask you very politely 'Could you please see your way clear to inserting that other disk, when you're ready sir?', or make any other sound that you care to sample. Even if you ignore the sound features, you'll still have nice new dialogue boxes that don't pop up right in the corner of the screen, some of which even include little animations! How pleasant.



re-org

(2.04 ROM or higher) Do you ever wonder why loading files and directories takes so much longer with some disks than others? The reason for this is data fragmentation. If you're working on a file, updating it every now and then, adding extra files to the disk, and deleting old files to make way for new ones, the data will gradually become a mass of little blocks scattered across the whole disk.

Re-Org cunningly re-organises all the data on floppy and hard disks, so that the files are stored as continuous blocks. It also sorts out the directory list, speeding up the DIR and LIST commands, as well as directory listings from within any applications. Unfortunately, you need a 2.04 or higher version of Kickstart to run it, as found on the A600, A1200, A3000 and A4000.

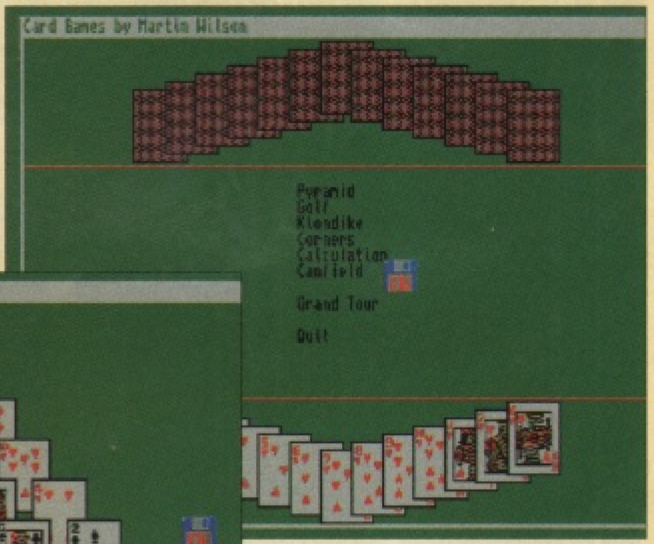
WARNING: BACK-UP ANY DISKS BEFORE YOU OPTIMISE THEM. You shouldn't have any problems with Re-Org mashing your disks, but circumstances beyond the program's control (such as power cuts or surges for example) can leave you with a dead disk, so make sure you work on a copy, not the original.

Double click the *Re-Org* drawer, followed by the *Re-Org* program icon. Once it's loaded, you can customise the program to suit your preferences. For a better understanding of how the optimisation works, activate the GRAPHICAL SECTOR DISPLAY by clicking its box. It's also a good idea to click the ENABLE WRITE VERIFY box, so that your optimised files are checked as they are written.

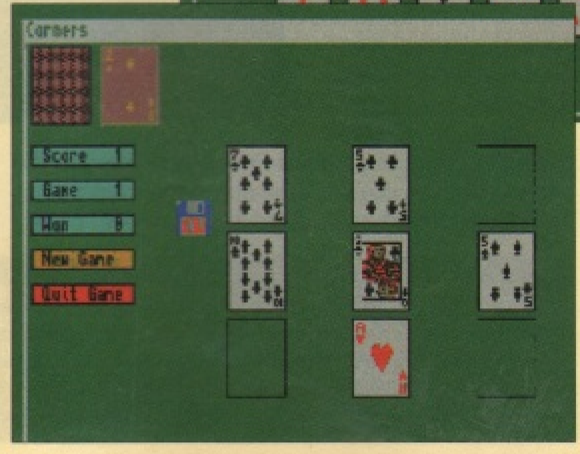
When it comes to optimising a disk, there are two modes. The first, for single-drive users, reads in the data, and writes it back in an optimised form to the same disk. This is the more risky mode of the two, but its the only option if you don't have an extra disk drive. If you're using more than one drive, you can benefit from the second mode. This reads from one drive, and writes the optimised data to a fresh disk in another drive. This is safer, as it's not writing over any of your original data. Select your chosen mode with the circular arrow gadget beneath the list of available devices, and define your input and output drives if you go for the second mode.

Click on START, and away you go. Floppies will usually take around 1-2 minutes to optimise. Depending on the capacity, hard disks can take anything up to 15 or 20 minutes. Accelerated processors speed up the operation.

card games







This is a collection of six solitaire-style card games. To load them, double-click the CARD GAMES drawer, followed by the CARD GAMES program icon. They're all controlled with the mouse in the same way. Click on the card you want to move, and then click again on the spot you want it moved to. The games included are Pyramid, Golf, Klondike, Corners, Calculation and Canfield. You can choose to play anyone of them by selecting them from the title-screen menu, or play the Grand Tour, which gives you all six in sequence, accumulating your score as a running total.

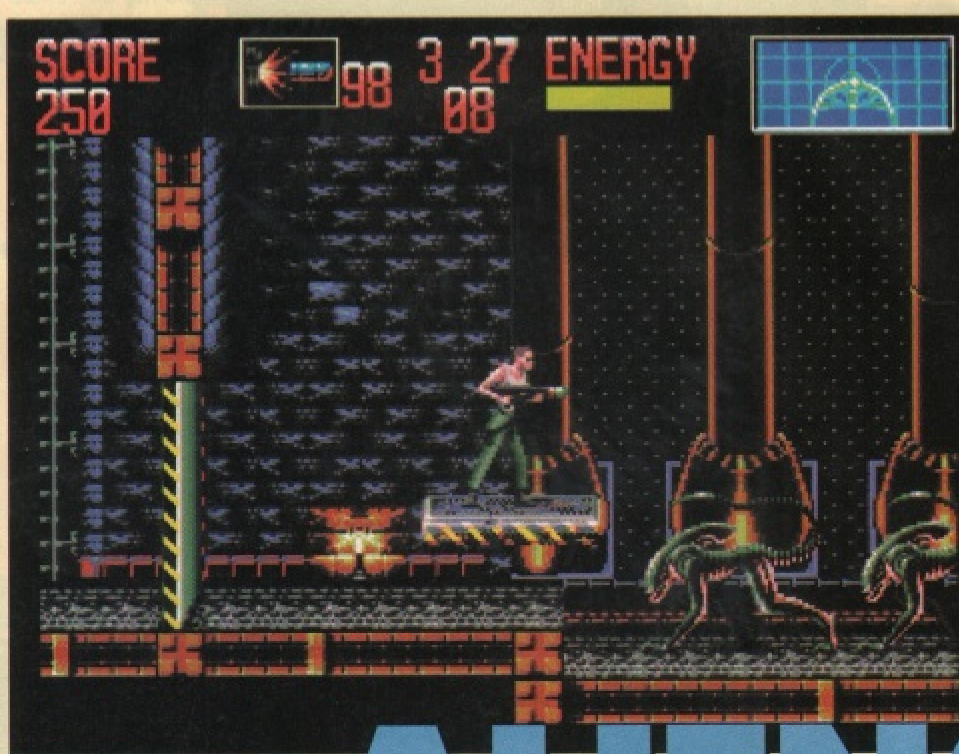
For details on the rules of each game, consult the DOC files in the CARD GAMES drawer.

COVERDISKS



Roll up! Roll up! See the amazing CU coverdisk. Without a doubt the best ever. This month we've dug deep into our deep things, soared to the heights of our soary things and brought you two fully playable demos of Alien 3 and Walker. Two soon-to-be smash hits. We've gotten together with their publishers, Acclaim and Psygnosis respectively, to give you the first levels to both games – what more could you ask for. So, get your trigger fingers twitching and off you go.





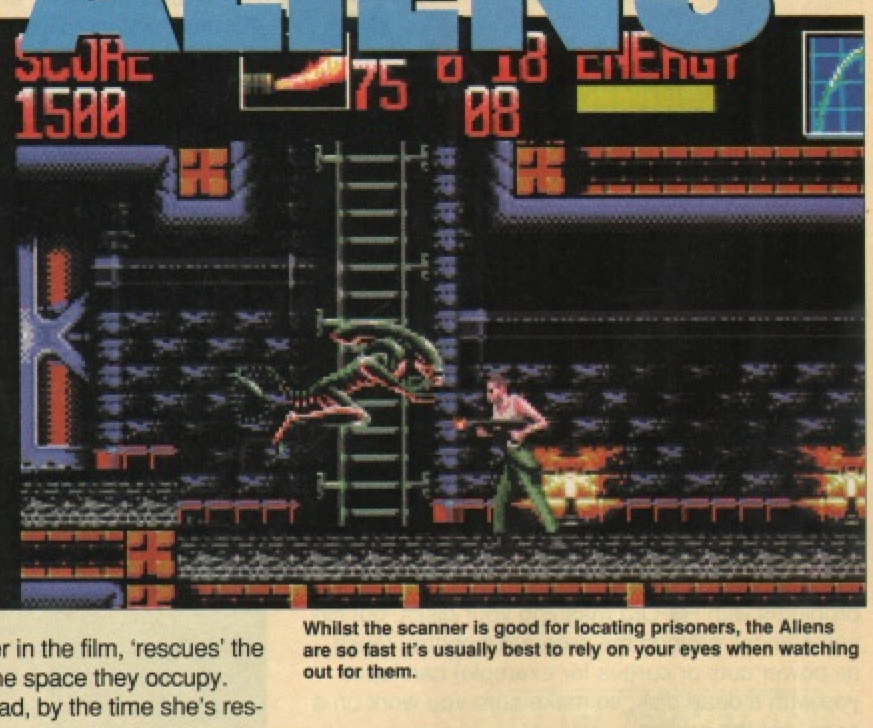
In the top left of the screen is your score, and beside this a picture of the weapon currently in use (together with a figure indicating its remaining number of uses).

A movement sensor is displayed in the box in the top right of your screen: flashes on this indicate life forms (either aliens or struggling prisoners) and their position relative to Ripley.

ALIEN3

In this all-action shoot 'em up from Acclaim, inspired by the latest film about everyone's favourite extra-terrestrials, even Ripley's rippling muscles are put to the test. The object of the game is to escape from a prison colony crawling with bloodthirsty slime-dripping alien monsters. It's not quite as straightforward as that, however, as the prisoners must first be rescued from the various walls to which the aliens have stuck them – and guess who's got to do that!

Ripley, the character played by Sigourney Weaver in the film, 'rescues' the prisoners by moving on to the space they occupy. They look somewhat, er, dead, by the time she's res-



Whilst the scanner is good for locating prisoners, the Aliens are so fast it's usually best to rely on your eyes when watching out for them.

LOADING COVERDISK 49 To load Coverdisk 49, just insert it in your Amiga's drive and switch on. Within seconds icons will appear for each demo. Just position the cursor on the one you want to run and click with the left mouse button. Moments later the demo will be ready to play, as long as your Amiga has at least 1Mb of memory. If you have difficulty loading your disk please contact PC Wise at the address or telephone number given on page 14.



The number of Ripley's remaining lives is top centre, then a horizontal bar indicating her 'Energy' (which will change colour as she tires and gets injured). Above this is a clock counting down. Didn't I mention that before? Your mission is a race against time – get those prisoners out of there within five minutes.

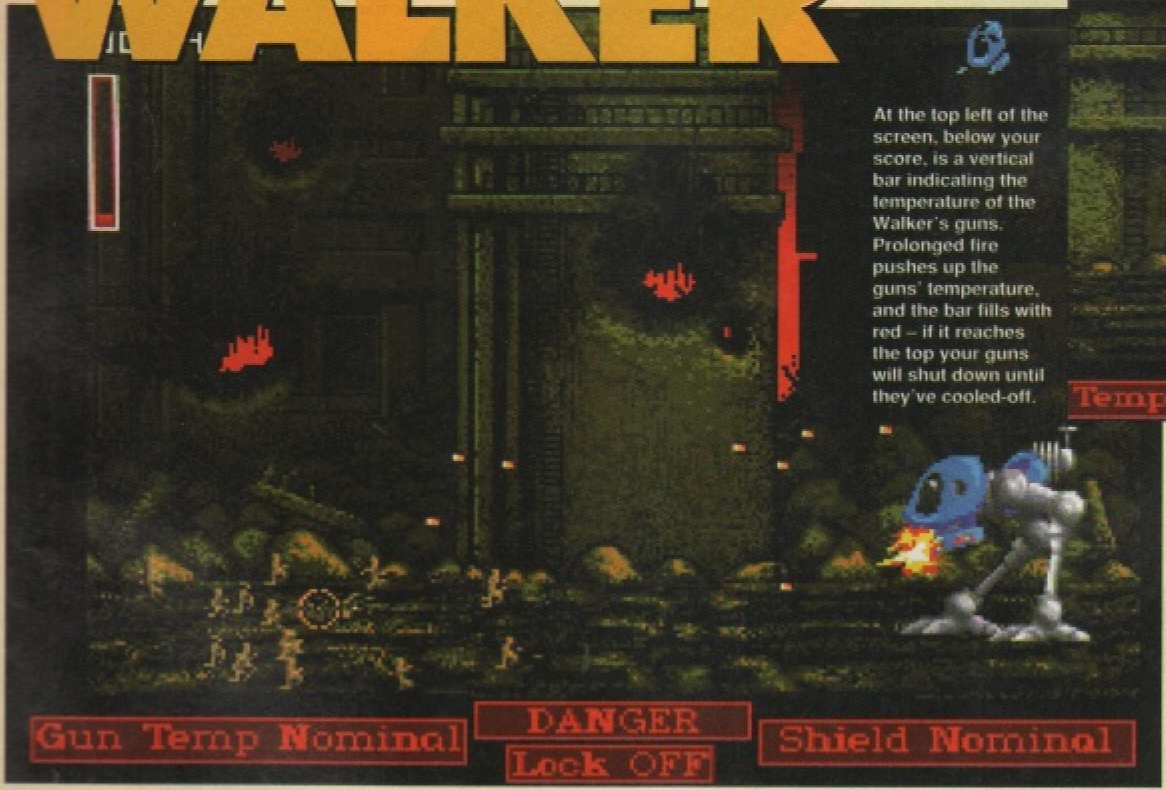
cued them, but perhaps they were just collapsing with relief, so let's gloss over that. What stands between Ripley and the prisoners? Aliens, of course, and lots of them! Leaping out of the ground, dropping from ceilings, climbing ladders, and crawling through tunnels, there is a virtually endless supply of these critters, intent on making mincemeat of our heroine.

An options screen allows you to give Ripley up to nine lives, and alter the level of difficulty (Easy, Normal, and Hard). Movement is controlled by the joystick (up, down, left, right, in the conventional manner). Ripley will need to leap, climb ladders, and crawl through tunnels, just like the Aliens to complete her mission. She's far from indestructible, however, so bear in mind how far she'll drop and what she might land on when jumping. There are many doors in the complex, which are opened (and sometimes closed) by turning Ripley to face the buttons beside them (stand her in front of the buttons, then press up on the joystick). Alternatively, use the grenade launcher to blow them away.

A variety of weapons are at Ripley's disposal: pulse rifle, flame thrower, grenade launcher, and hand-thrown grenades. Scroll through (i.e. change) the weapon currently in use by pressing the space bar. A good tactic in many areas is to shoot at the ground whilst moving, so as to blast the aliens as soon as they start to pounce. Although effective, this is a wasteful approach and ammunition is limited – if you run out you'll be dead meat! Fortunately, caches of ammo and first aid kits are lying around the building so, if you're careful, you'll be able to keep Ripley fighting-fit.

A couple of tips: blast a few shots down and up ladders before ascending or descending them. Put a few more into tunnels before crawling through – they lead to completely dark unknown territory until you emerge, so this may prove a necessary precaution. If you don't rescue the prisoners in time what happens next won't be a pretty sight – gut-wrenching, in fact. Good luck – you'll need it.

WALKER



At the top left of the screen, below your score, is a vertical bar indicating the temperature of the Walker's guns. Prolonged fire pushes up the guns' temperature, and the bar fills with red – if it reaches the top your guns will shut down until they've cooled-off.



In the top right corner are symbols indicating the number of lives remaining to the Walker. Below this is another vertical bar, which starts green. The colour drains away as the Walker's shield sustains damage – when the bar turns completely black, shields are down and continued existence precarious.

In most shoot 'em ups you get to play the little guy, a heroic David struggling to overcome or evade hulking great Goliaths intent on squashing you underfoot. Now, in this game from Psygnosis, the boot is on the other foot! Commanding a huge walking gun platform (rather like the ones used by the Empire against the Ewoks in 'Return of the Jedi'), you advance to the left, across the scrolling screen, hammering hordes of Lilliputian adversaries who cross your path.

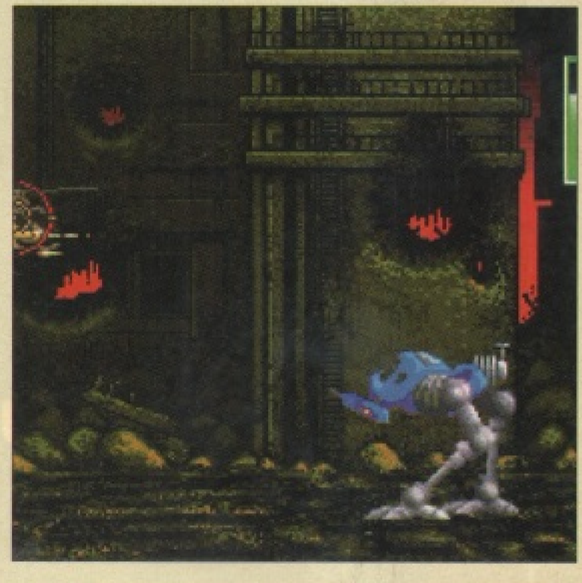
The Walker's opponents may be small, but they're determined and well-armed. They're smart as well, so watch out for the missile-firing, abseiling, bomb-planting, strafing impediments which will be hurled against you. They'll keep fighting until you squish them too – so have no mercy (it's a hard world in computer games)! You won't feel so sorry for them once your defensive shield has been worn away to nothing and you've become a sitting (or walking) duck.

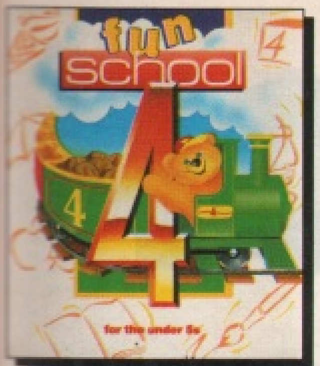
How do you fight? The controls for Walker are easily mastered, although they're slightly unusual for a shoot 'em up, so follow closely:

- The Walker moves forwards and backwards (left and right) according to whether you press the right or left facing cursor arrow keys.
- A large cross-hair appears on the screen, representing the point upon which the Walker's gunsights are targeted. Press the left mouse button (LMB) and all its guns will fire upon this area. Move the cross-hair with the mouse to change target. The Walker cannot turn around, so you'll find that it cannot aim at opponents behind it – watch out for that.
- Once your guns are trained upon a suitable target, press the right mouse button (RMB), and keep it depressed, to 'lock-on' to the enemy – removing the need to follow its movements with the mouse in order to keep it under fire.

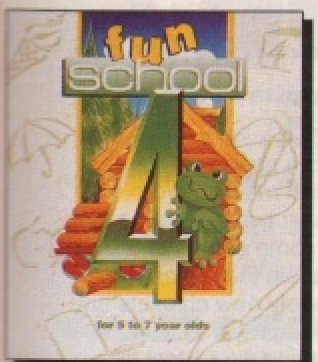
Along the bottom of the screen are text messages: gun temperature at the bottom left, shield condition at bottom right. In the middle appears a warning of imminent danger, or the all-clear if the Walker has swept the current screen of its enemies. Below this is a notice about the status of the lock-on – either it is off, or fixed onto a target.

The controls are as simple as that, but remember to keep an eye on the condition of your machine by referring to the information panel beneath the action screen. Stroll on!

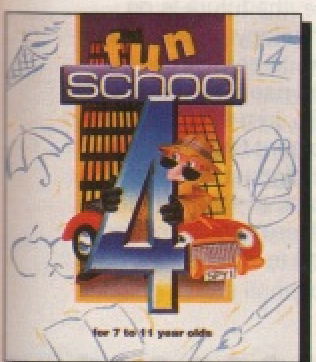




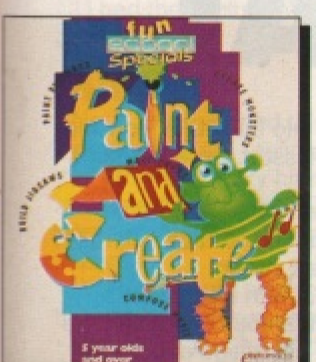
FUN SCHOOL 4
For the under 5's.



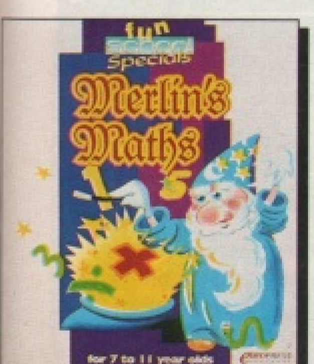
FUN SCHOOL 4
For 5 to 7 year olds.



FUN SCHOOL 4
For 7 to 11 year olds.



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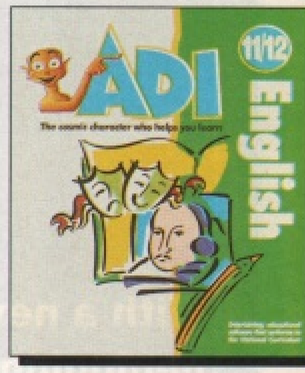
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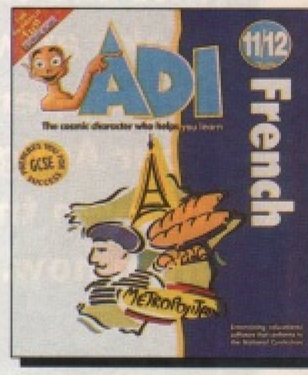
TEL: Technical/Admin: 0625 859333. FAX: 0625 879962.



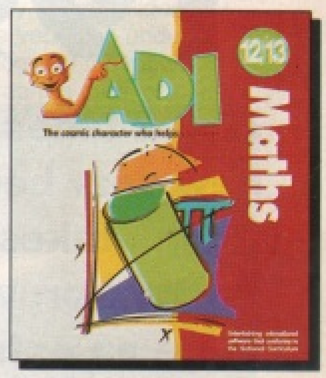
FUN SCHOOL SPECIALS
Spelling Fair.
For 7 to 13 year olds.



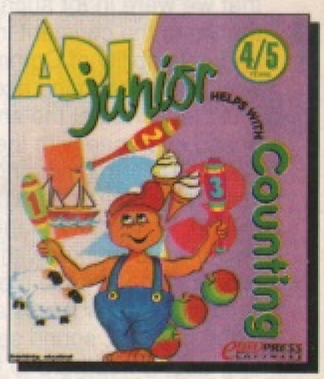
ADI ENGLISH
For 11 to 15 year olds.



ADI FRENCH
For 11 to 15 year olds.

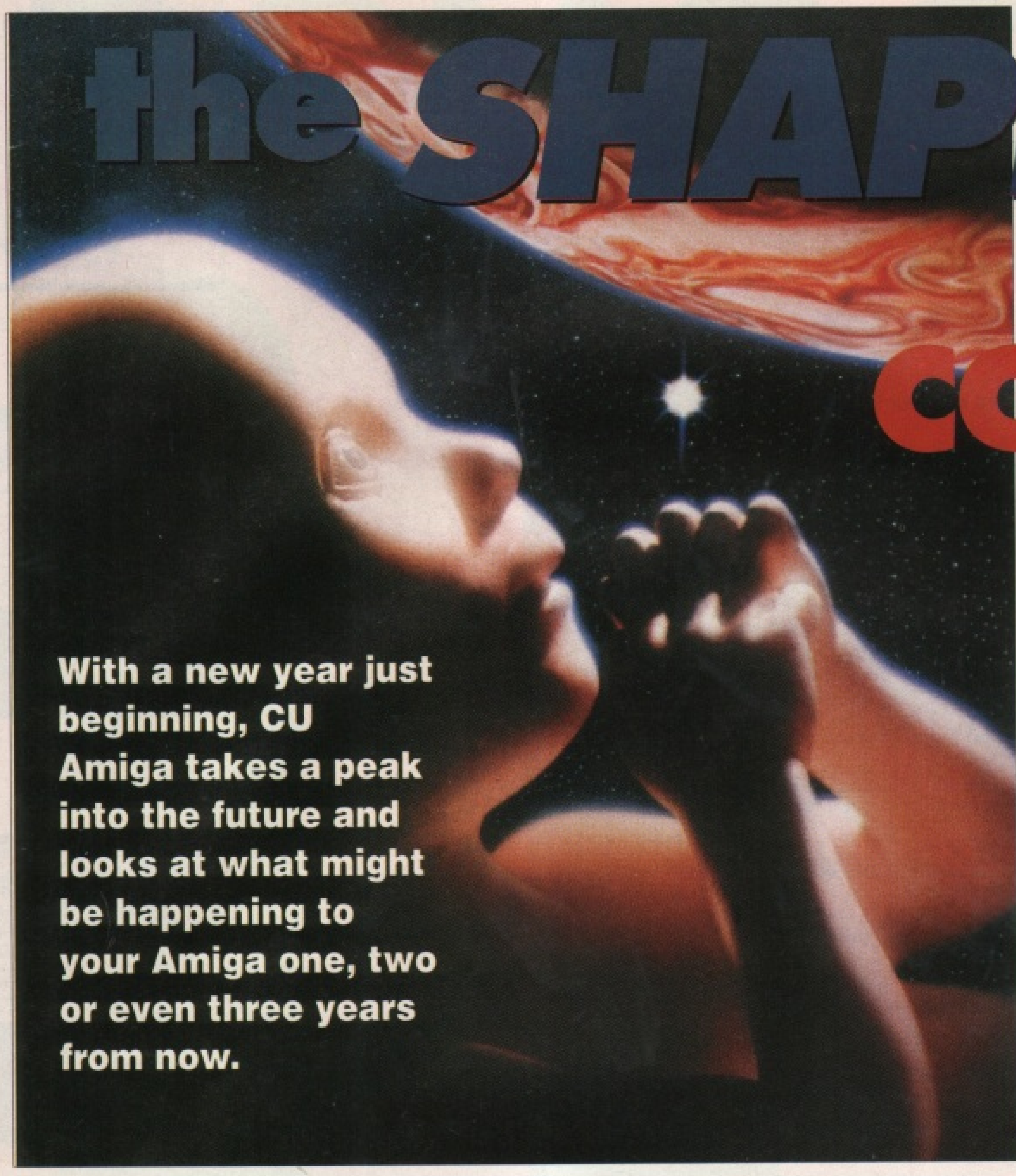


ADI MATHS
For 11 to 15 year olds.



ADI JUNIOR COUNTING
For 4 to 7 year olds.

the SHAPE OF COMDEX



With a new year just beginning, CU Amiga takes a peak into the future and looks at what might be happening to your Amiga one, two or even three years from now.

ALL SYSTEMS GO

The Amiga has certainly had a good year, even despite the muddle over which machine you should buy (there were at least two similar models in the shops at once during some stages of the year). Still, there were launches, there were breakthroughs, there were completely new chipsets and Kickstarts, and there were even record sales. That's all very well, but what can we expect this year, or even next year? What lurks over the temporal horizon?

Well, as is technology's perpetual promise, the future is here today. At the trade shows and conventions all around the globe, the future is on preview now. Emergent technology is what the jargonists like to label it. We like to call it 'new developments', because then people understand what we are talking about. So, in a fit of fraudulent expense account claims, we sent Nick Veitch and Mat Broomfield to two of the biggest computer shows of the year to come face-to-face with the future of Amiga computing. Here's their up, and indeed, past the minute guide to what the Amiga will one day become.

1992 AND ALL THAT

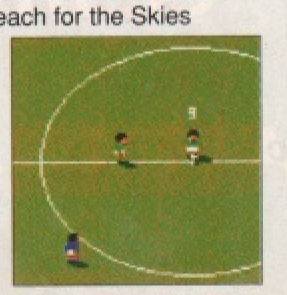
As '92 fades away and a new year beckons, CU Amiga takes a look back at what proved to be quite an extraordinary 12 months.

Who would have thought, at the beginning of '92, that we were in for such a white knuckle ride thanks to the constant inventiveness and damned unpredictability of Commodore UK. Just as the world was becoming accustomed to the A500 Plus, launched at the end of '91, Commodore surprised everyone with the unveiling of the A600, the A570 CD-Rom drive and, towards the end of the year, the superlative A1200 and top-of-the-range A4000. Third party manufacturers were also busy flooding the market with a succession of new products to increase the computing power of your Amiga. Whether it was a superfast hard drive, video digitiser, sound sampler or memory upgrade, it was hard to keep up with the endless tidal wave of innovation and creativity that threatened to engulf us all.

And as if all this wasn't enough, Amiga software just kept on getting better. Whether you were a gamesplayer, hobbyist or enthusiast, there's no denying the vast number of quality programs that were released during the course of the year. From Project X to Pro page 3.0, there was something for everyone and every interest. So here, for your delectation and delight, is a month-by-month guide to the year just gone.

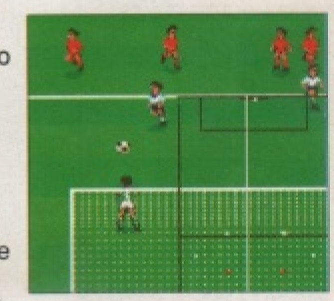
JANUARY

- After the Maxwell scandal forced the closure of Mirrorsoft, the rest of the industry fell over themselves in the mad scramble to sign up the many abandoned projects. Amongst such gems to be snapped up were Sensible Soccer and Fire & Ice (both went to Renegade),Reach for the Skies (Virgin) and TV Sports: Baseball (Mindscape).



- The first rumours of the A4000 began to emerge, plus much press speculation about an Amiga console with special sprite enlarging and scrolling chips. This latter project has now metamorphosised into the CDTV console we exclusively revealed last issue. Expect it sometime before the summer.
- Gamesmaster began its first TV series on Channel 4 and was an instant hit, attracting a regular weekly audience of three million.
- Nintendo announced a deal with Mindscape which should see their most famous character, the Italian plumer, Mario, make his Amiga debut in an 'edutainment' product sometime in 1993.

FEBRUARY



- Computer and video games continued to defy the recession and the Daily Mirror started a regular weekly games page.
- Special FX announced they were going it alone, after years of working with Ocean. A few months later they were to release their footy game, Striker, to much public acclaim.
- CU had a special feature on Arcane Design, widely tipped to be a creative force within the industry. A year later, and we're still waiting for their first game to appear!

things to COME

In the world of 'serious' computing, Comdex is probably the single greatest show of the year. With 11,800 stands split between five massive conference centres in central Las Vegas, it's certainly the largest and although the show is almost exclusively devoted to PCs, networks and other business systems the Amiga did put in a significant showing.

SMART SPECULATION

Comdex was split into five major categories: Network Computing, Multimedia Showcase, Mobile Computing, Imaging and OEM Business. In the Las Vegas Hilton were PCMCIA, a California-based company, who were busy co-ordinating a major display of PCMCIA peripherals. For those of you who are unfamiliar with the term, PCMCIA is the abbreviation given to 'Smart Cards' which, although only the size of a credit card, contain miniaturised circuitry which can be used for a whole variety of serious applications. Originally developed for portable PCs, PCMCIA slots are present on both the A600 and the A1200, leading many pundits to speculate about the potential usefulness of such an expansion capability.

Judging by the items on offer at Comdex, the future is very bright indeed. Maxell were showing eight and 16-bit RAM cards ranging in capacity from 512K to a whopping 16 megabytes... And all on a single card small enough to fit into your wallet! Continuing the storage theme, there was a veritable flood of manufacturers demonstrating PCMCIA hard drives. Of these, the 1.8 inch, 42.5 meg drive from Ranger was a good example. Incredibly, the entire drive measures less than half an inch thick and weighs a negligible 2.75 ounces.

Also of great interest were the miniature Fax and modem cards, of which the most impressive was the Redicard, a combined fax and modem capable of transmission at up to 14,400 baud. If these represent the future of Amiga computing, then we're in for a great time indeed. By including PCMCIA slots on their more recent machines, perhaps Commodore are already setting the scene for a truly portable Amiga?

COMMODORE AND PALS

Talking of Commodore, they were to be found in the Multi-media hall where they had a moderately small display area. Although they were displaying their A1200 and A4000 machines, most of the stand was occupied by companies that they'd invited to turn up. Centaur were there with a very impressive Opal Vision demonstration, but this was somewhat occluded by DMI's Vivid 24 and Digital Editmaster boards for the 2000 and 3000 range of Amigas. The 68040 based Vivid 24 is clearly designed as a head-to-head rival for Video Toaster, with its 24-bit rendering and display tools. It has an eight bit alpha channel for performing video effects and can render a stunning 100,000 24-bit gourad shaded polygons every second in resolutions as high as 2048x2048 pixels. Designed for professional broadcast use, at its highest configuration the board can evaluate up to 160 MILLION floating point operations per second (FLOPS). Compare this to an A3000's 4 million FLOPS and you begin to get some inkling of the awesome power of the board. At more than 12,000 dollars, the board doesn't come cheap, but in terms of its power to price ratio, it's 14 times cheaper than an A3000. It compares even more favourably against the Silicon Graphics machines, which have, for too long, been among the industry standards for this kind of work.

The Digital Editmaster board brings similarly impressive specs to the arena of video editing and animation. Using full JPEG hardware compression, the board can capture any video images in 24-bit real time, compressing them before storing them on hard drive. These frames can then be sequenced and edited at your leisure before re-recording them to video tape. At 100 to 1 compression, recording video quality images, over five minutes of animation can be recorded to a 100 megabyte drive. The system works in both PAL and NTSC so, once recorded, images can easily be converted from one system to the other. Again, the system is not a toy, costing $2495, but it offers features which can usually only be found in video editing suites worth upwards of $100,000!

MASS MEDIA

DMI were also showing their SCSI compatible

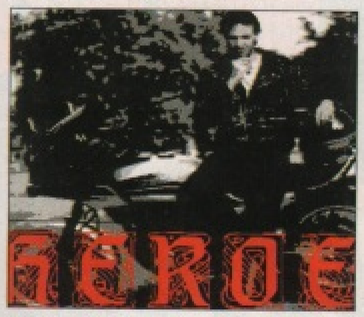
• John Madden was released, the very first Megadrive game to be converted for the Amiga. CU had the exclusive playable demo on the coverdisk.

MARCH

• Not a lot happened this month. Perhaps the industry was still reeling from the announcement that Mr. Punctuality himself, Nick Veitch, had been appointed Tech Ed on CU Amiga. Then again, perhaps they were too busy having a laugh at our expense.
• P...P...Penguin biscuits took over sponsorship of the games software charts.
• Parasol Stars, the follow-up to the best-selling Rainbow Islands, was finally released and was rewarded with a 95% review.
• We also took a first look at Zool, in a three-page in-development feature. The game was destined to top the charts later in the year.



APRIL



• Kansas-based Newer Technology was forced to abandon their portable Amiga prototype. Commodore refused to grant them a remanufacture license for the Amiga custom chips when they, in turn, were denied access rights to the new machine's design.
• The trade press finally picked up on the runaway success of Team 17, as CU Amiga awarded Project X a whopping great 92% for being the best Amiga shoot 'em up ever.
• Pro Page 3.0 was released by Gold Disk, and hailed as the premier DTP tool for the Amiga.
• Philip's CDi system, a rival to Commodore's CDTV, went on sale to a fanfare of publicity. Nothing much has been heard of it since...
• Zero magazine was banned from WH Smiths and Menzies for featuring a Cover Girl Poker playable demo on its coverdisk.
• Psygnosis signed up Dungeon Master creators, FTL, in an exclusive deal.
• Dan Slingsby was promoted to editor of CU Amiga. Hurrah!

MAY

• CU got a new lick of paint, a bit of a redesign and moved up to American A4 size.
• Electronic Zoo closed. No one was really surprised at this, except for Electronic Zoo themselves. After all, a company responsible for the completely awful Germ Crazy and the hideously warped Magic Garden deserved to go under.
• Amiga Centre Scotland, home of the much vaunted Harlequin 24-bit graphics card, closed its Edinburgh-based shop to concentrate on R&D.



• In-game advertisements began to appear in computer games, thanks to the inventive strategy of Micro-Time Media. Robocod featured Penguin bars and Microprose Grand Prix included Duckham Oil billboards.
• Maxis abandoned its links with Ocean and moved to Mindscape. Look out for Sim City 2000 in '93!
• CU Amiga published an exclusive picture of freelancer Rik Haynes taking a bath and received a flood of outraged complaints. This was not because of Rik's spectacular ugliness, but because we continued to let him write for us.

JUNE

• CU scooped the world with exclusive reviews of the A570 CD-Rom drive and the A600.



THE BEST COMPILATION OF ALL TIME
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Floptical disk drives. The drive functions like a hybrid floppy and hard drive combo. It uses removable disks capable of storing 20.8Mbs of data, and which cost $20 each (currently about £13.50). These drives can be fitted internally in A1500s upwards, or can be used externally with the A500. At only $449.00 for the external model (about £290), they compare extremely favourably with conventional hard drives.

In the multi-media stakes, Creotec were demonstrating VidDisc, an interactive CD authoring system capable of handling 64,000 colour stills (or partial motion video frames), and synchronising these with multiple language digital audio tracks (sound samples to you and me!).

They were demonstrating the system with a touch-screen monitor whereby the user could 'wander' around an art gallery looking at the exhibits and zooming in on particular paintings at will. They also showed how the system is already being implemented by a number of major companies including American grocery giants K-Mart.

On a less interactive note, TV production company Bethea Miteff were demonstrating the Amiga system used to produce an American kid's program called 'Nick's Arcade'. With 42 shows being recorded yearly at the rate of five per day, their previous computer system could no longer cope, yet with the Amiga the work of over half a dozen people was reduced to a dozen key-strokes which could be activated by even non-technical personnel. The system – known as 'Nickelodeon' – activates animation, video footage, sound samples and a host of production functions, and mixes them seamlessly with real-time filmed events.

Returning to the other Comdex halls, input and output technology was very much in evidence, with Hewlett Packard and Canon both demonstrating their new 600DPI laser printers, and a number of imitators showing their versions. Citizen employed the services of a top Las Vegas card shark to draw our attention to their new low-noise dot matrix printers. Despite the fact that they use 24 pin technology to produce full colour output, they only produce between 43 and 46.5 decibels of noise, quieter than some bubble jets and most lasers. Talking about colour printing, it seems that the word is out and everyone's trying to get in on the act. It's not enough to simply print in colour, we want lots of colours, high resolution and a low price. Canon (who also released the BJ-200 as a worthy follow up to their BJ-10ex) did their best to impress with the CJ 10, a colour copier and printer, but for my vote Brother's Hot Melt Ink Jet Printer took the prize for sheer image quality. It wasn't just that the images were attractive, but they had an embossed feel that lent them real class. Mind you, at $9995 their printer was way off in the affordability stakes!

TOYS R US

Don't get the impression that the show was all work, work, work though. Apart from the innumerable tacky sideshows, competitions, giveaways and spectator events, there were a few fun products on offer, such as Tardis Technology's Voice Trek, a voice recognition system that lets PC users control their computers verbally (of course, this has been available on the Amiga for some time). What about Galiza's portable computer cases – the briefcase equivalent of Inspector Gadget's arms, or Batman's utility belt. Tardis-like, these cases just keep on revealing new hideaways to produce the ultimate in portable transportation! Or how about Laserex' Laser Pointer? The ideal gift for the lecturer who has everything, in a pen sized unit it simply lets you project a red laser dot anywhere you like!

However, the ultimate in executive toys had to be the Mouse Arena from Forminco. This amazing mousemat comes complete with leather palm supports, spring-loaded cord control system and Tyron (whatever that is!?) coated tracking surface to ensure that your mouse never gets dirty or clogged up!

COLOGNE

The Cologne Amiga show is a good forum for showcasing the very best in European software and hardware advances. And, true to form, this year's show had a wealth of amazing new products on show for the very first time.

SMALL IS BEAUTIFUL

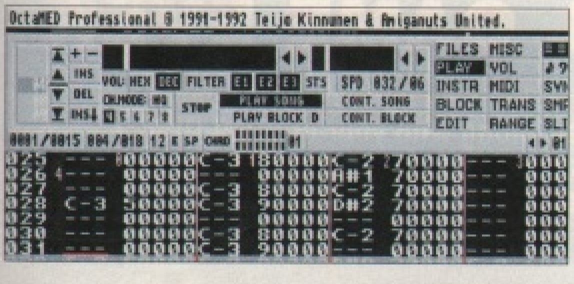
Macro Systems are a prime mover in the German marketplace, and will no doubt be soon making inroads into this country. With hardware like the V Lab digitiser (latest model reviewed this issue) at the spearhead of their blitzkrieg it is hardly surprising.

On display at the Cologne show recently was the second flank of their two pronged assault. Called Maestro, the latest product is a 16-bit sound card. This is not such a departure from the graphics side of things as it may at first appear. In fact sampling and graphic digitising are very similar processes – the main engine of the hardware is a fast analogue to digital converter (known as a DAC) which doesn't really care whether the data it is process-



• Monkey Island 2 finally arrived, to yet another exclusive review, and garnered a well-deserved 95%.
• Westwood, the team behind Eye of the Beholder 1 & 2, were bought out by Virgin. Their first game for Virgin, Legends of Kyrandia, has just been released.
• Commodore celebrated the 1,000,000th sale of an Amiga computer in the UK with a special competition for one lucky person to win 800 computer games.
• The Commodore-approved repair centre run by FMG closed its doors and caused great concern to the many Amiga users whose machines were in for repair. Fortunately, Commodore road to the rescue and carted all the machines off in the back of a fleet of lorries.

JULY



• Probe Software announced they were abandoning the Amiga in favour of the console market.
• A500 production ceased. Sob, sniffle...
• Our July coverdisk featured OctaMED Professional v3.0. We have been inundated with reader's tunes ever since. 950 at the last count!!
• We took a look at Voyager, a superb astronomy package that tracks each and every planet and star known to man (well, almost!).

AUGUST



• Steve Franklin stepped down as head of Commodore UK to take charge of CDTV. After five years in the hotseat, during which sales of the Amiga passed one million, the burly big man decided he wanted a new challenge. And boy, did he get one!
• The CDTV finally appeared in a special multimedia pack that included a keyboard, disk drive and mouse. Commodore even started to refer to it as Amiga CDTV. Up until this point they had tried their best to distance the machine from their successful Amiga-range of computers.
• Long-time CU game reviewers, Steve Merrett and Steve Keen, moved on to pastures new. Steve Merrett joined sister magazine, NMS, as deputy editor and Steve Keen joined the staff of C&VG.

SEPTEMBER



• MovieSetter adorned our September coverdisk, as used by Eric Schwartz and other leading Amiga animators.
• Nick Veitch adorned the cover of CU Amiga, but that was okay as he was safely hidden from view behind a welding mask as he set about an A500 with an acytelene blowtorch. The reason for this strange behaviour? the launch of a regular DIY feature in the magazine which, strangely, has never reappeared. Perhaps in the new year...
• Our Kick Off 3 scratch card offer was a resounding success, with 10,000 entries. A pity, then, that the game has now been delayed until well into the new year.
• Also on our coverdisks was POD, a Shaun Southern conversion of a classic 8-bit blaster. Unfortunately, ELSPA didn't take too kindly to this and promptly banned us from featuring any more such conversions. Boo. Hiss.
• Electronic Arts flexed its bulging wallet and bought up Origin, the company behind the Ultima games and Wing Commander.
• Zero ceased publication.

Sensible SOCCER



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NEW SEASON TEAM INFORMATION

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Sensible SOFTWARE

Renegade

C1, Metropolitan Wharf, Wapping Wall, London E1 9SS Published by Renegade

ing is sounds, pictures or recipes for flapjack.

The Maestro not only supports direct to disk sampling (which means that given a big enough hard disk, you can digitally master yourself to CD quality in the comfort of your own home), but also features a digital output, which could be useful for direct connection.

There was much interest in the soon to be released Retina graphics card. The card promises to provide various colour enhancements at different resolutions from 600x800 with 65000 colours to 1280x1040 at 256. The interesting thing is that it will only cost between DM548 and DM698, depending on how much RAM is required.

COMBO CARDS

Masoboshi were lurking at the show with a variety of combo cards and RAM expansions. The flagship of the range is the MC702 which combines an AT-IDE port, a SCSI controller and expansion capabilities for 8Mb of RAM. Essentially this means you can connect two more AT drives and six SCSI devices, which should be more than enough for anyone.

Activa, best known for their amazing raytracing package, Real 3D, were previewing the latest version which has more functions than ever. Version 2 will only cost around the same as the original, which is still on sale but has dropped to a budget(!) price of around £70.Hijacking part of the stand were the American firm, Digital Creations, who were showing the now legendary DCTV and DCTV-RGB.

Another well known German company, 3-State, were demonstrating an Ethernet card. Ethernet is a standard high-speed LAN (Local Area Network) system, used a great deal in the professional PC world. The 3-State system will work on the A500, as well as the 1500 and up and will even run Novell Netware.

Fischertechnik were providing a little nostalgia for most people. Remember building little Lego™ engines and robots? Well these are the same, only with the interface and software they really come to life. All sorts of magical devices were on display: robots, money machines, musical toys, CD-players, plotters – there were no end to the number of things that can be built and controlled by the Amiga in this way. These systems have been available for some time, but have yet to make it over here which is a shame.

Golden Vision, not to be confused with Golden Image (who were also here), brought the latest version of Expert Draw with them. The ability to import various different font types has been included and now there is a utility to create vector type fonts. Output will be in EXPF (Expert Font), DMF (Pagestream) and PBF (Adobe Type 1) formats. When it is released here we will no doubt see a lot more fonts available on the Amiga.

CONCLUSIONS

So what conclusions can we draw from these computing trade shows? Well, the first thing must surely be that people want adaptability. As more and more people use computers for an increasingly diverse range of applications, customised software and hardware is becoming more and more essential. We in the Amiga world are akin to younger siblings in a large family – we usually end up getting everyone else's hand-me downs, but in computing terms that means that we also get to benefit from tried and tested technology.

UNLUCKY FOR SOME

Okay, so a look at the future wouldn't be complete without a few predictions. Unnervingly though, almost all of the things that we predict come true. Do we have a clairvoyant on the staff? No, we just bug Commodore's offices.

Anyhow, here are the sort of things likely to happen:

- The second wave of CDTVs will arrive. The updated version will be squarely positioned as a console beater and may lose the 'CDTV' name. Due to price it will probably not include the MPEG compression hardware to allow full frame full motion video, but this may yet appear on an updated CDTV. It should contain the new AGA chipset though.
- The A600 will be priced down, eventually. It will soon cost less in real terms than the C64 did!
- A DSP co-processor board will arrive. This will be included with future versions of the A4000, as will a SCSI port.
- 24-bit graphics cards will become much cheaper. Eventually a standard will emerge and people will be happier. There have been attempts at a standard before, but everyone who owns Art Department Professional must have realised by now just how many varieties of 24-bit card there are. Add to that the number of different versions of TVPaint knocking around and you can see what a problem it is. This is the kind of thing the Amiga was supposed to avoid.
- A CDTV drive will arrive for the Amiga600. Okay, CBM did say that it would be ready before Christmas – but they didn't specify which one. This may be held up in an attempt to make the device more compatible with any new features on the CDTV console, which would be a very good idea.
- A new 68030 Amiga will be launched, somewhere between the A4000 and the A1200, incorporating ZorroIII slots and the AGA chip set. This will effectively replace both the A3000 and the A2000. It is important to have a mid-range machine, because these are usually the ones that third party manufacturers use to build systems from (e.g. Video Toaster).
- A second wave of virtual reality machines will appear, once again using the Amiga as their base.
- Jeremy Beadle will be murdered.
- Commodore will find out that we know what they're up to and desperately change their minds about everything just to make us look silly.

Some things which ought to happen, but on reflection probably won't

- High Density drives become standard on the Amiga.
- CU Amiga will out-sell the Radio Times. Lord EMAP is so happy that we are all allowed to go home early one Friday.
- The Video Toaster will be converted for PAL use.
- Jeremy Beadle will be brutally murdered.

BUT DOES THE AMIGA HAVE A FUTURE?

Well, the answer to that one is a resounding yes, which must come as something of a relief to the thousands of new owners reading these words. Nick Veitch tells us why.

DOOM AND GLOOM The Acorn went through radical changes before it slowly edged its way to the periphery of the market and the ST looks like it will follow if the Falcon fails to solve cash-flow problems. The question is, will the Amiga eventually suffer a similar fate?

Just because a machine is way ahead of its time with respects to the technology, the custom chippery and the user-interface doesn't make it a candidate for long-term survival. History is littered with exceptional machines which fell by the wayside: The Jupiter Ace, the Lynx (the original one, not the Atari hand-held), even the TI-99/4A have suffered a premature death. Will the Amiga follow suit?

Remember that there are also a few zombies in the computer arena, machines which have been kept alive past their natural demise not by any great marketing effort but by the sheer numbers and dedication of their loyal fans. The Spectrum is an obvious example, and perhaps even the Amstrad CPC, but surely the most worthy challenger for 'Greatest white elephant still supported by the marketplace' is Commodore's own CBM 64.

STILL GOING STRONG The 64 once held a Christmas market share greater than the Amiga's and still has racks of software space in the local game stores. Although it was out of date in about 1984 its continuously (in real terms) dropping price saw successively larger numbers of them selling during Yuletide – just the thing for little Johnny (although little Johnny probably had enough sense to realise that an 8-bit, 1.4 MHz 6502 based machine with 16 colours and eight fantastically small hardware sprites was not exactly representative of the white heat of technology). But user-bases that large means more commercial interest, more third-party support and more 'self-help' groups.

The indomitable spirit of the Amstrad CPC users kept the machine vaguely afloat for years, not to mention a few CPC magazines. And as for the Spectrum, well, in the darkest recesses of a cupboard in the dungeons of these very offices, in a disused toilet with a sign saying 'beware of the leopard', there is still a Spectrum magazine going strong.

The point is that even if Commodore were to go bust tomorrow and no-one stepped in to save the country's most loved home computer, there would still be so many retailers, manufacturers, developers and magazines with so much to lose that we could see the greatest zombie yet. And whilst machines are still being launched, and developments are constantly underway we can safely say that the Amiga will last at least until the next century.

OCTOBER



- Less than three months after taking up a new role within the company, Steve Franklin sensationally quit Commodore UK under mysterious circumstances.
- Both AMOS Pro and GVP's A530 Turbo clocked up reviews of 97%. These were most definitely the two most astounding products of the year and deserved every percentage point.
- Sierra changed its mind and announced that it would continue publishing Amiga conversions of its games.

NOVEMBER

- Once again, CU were first with a review of the A4000, hailing it as 'the most significant advance in home computing since the launch of the original Amiga'.
- The falling pound force Commodore to announce price rises across its entire range, to come into effect from the 1st January. The A600 rises from £299 to £329 and the A1200 goes up from £399 to £429.



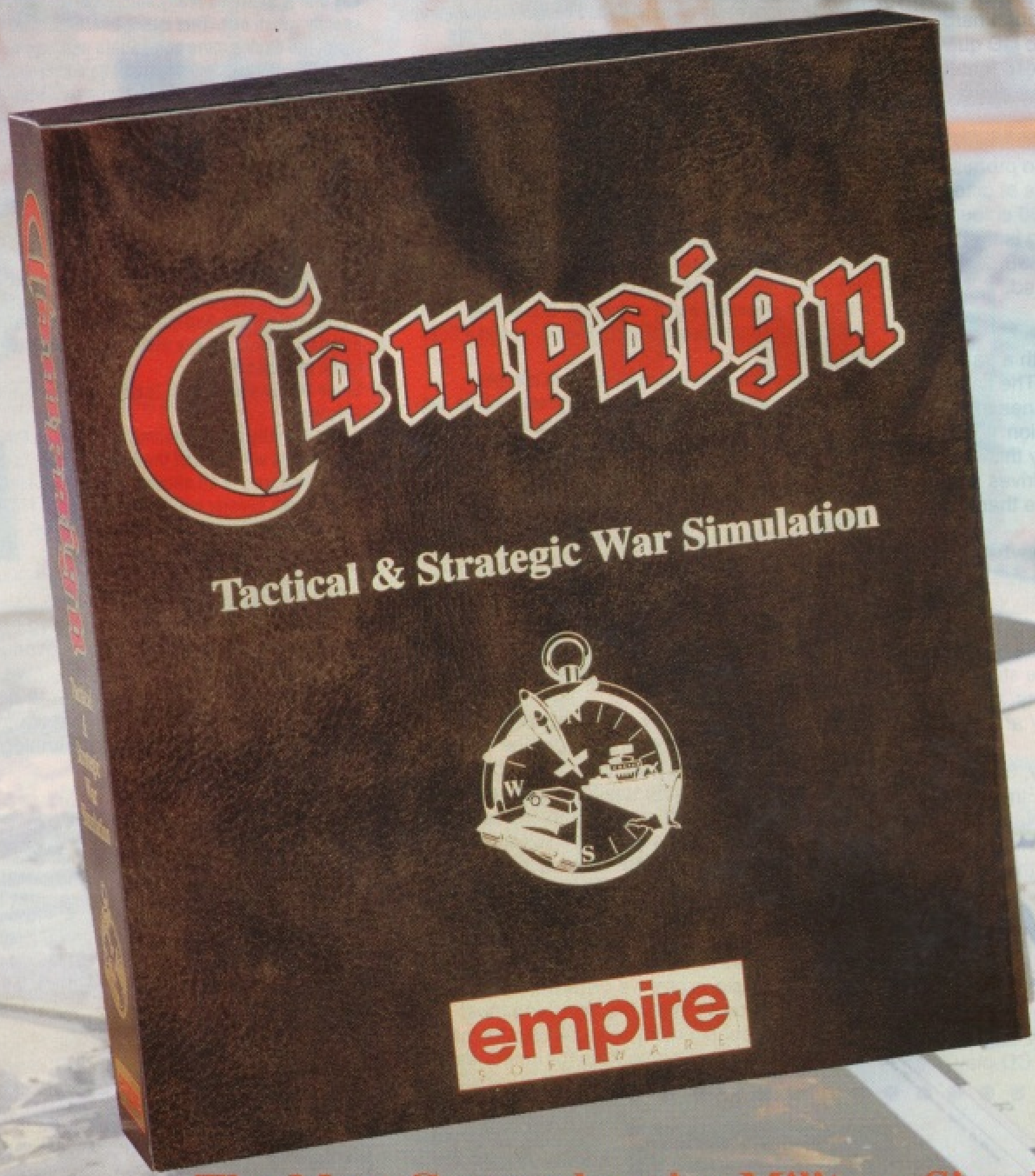
- Frontier (otherwise known as Elite 2) was publicly unveiled, although the release date has now slipped into the new year.

DECEMBER

- Gamesmaster Live!, the EMAP-run show held at the NEC in Birmingham, was a collosal success with more than 100,000 gameheads being treated to an aural and visual extravaganza. Amongst the many attractions where a beat-the-goalie competition from Anco, a go-cart track laid on by Sega and a huge Amiga arcade erected by Commodore (funnily enough).
- Dan didn't get the A1200 he was expecting in his Christmas stocking, so doubtless he'll be sulking when he comes back to work after the festive break.
- News begins to filter through about some problems with the sound chip on the new A1200, so Dan's quite glad he didn't get one after all (see news section this issue for more details).



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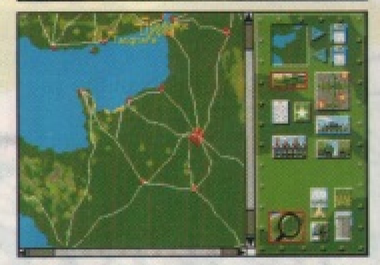
■ *Breath-taking graphics that are accurate in every detail, give a unique atmosphere of realism.*

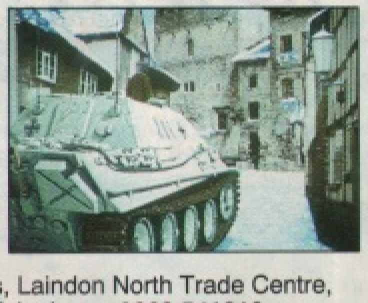
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empire SOFTWARE

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Programmed by Jonathan Griffiths

FAT AGNUS AWARDS

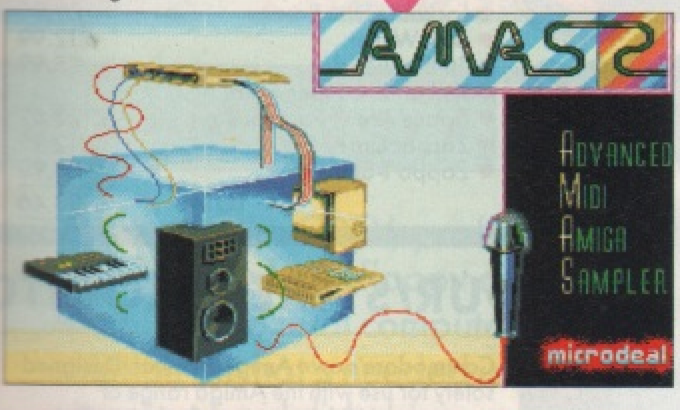
Cast your mind back to the warmth and sunshine of last August, when we asked you for your opinions on the very best in Amiga software and hardware. And now, wearing our very best moth-eaten dinner jackets, we're here to tell you all about the winners and losers...

BEST MUSIC SEQUENCER

BARS AND PIPES PROFESSIONAL - Blue Ribbon Fighting off plenty of die-hard *Music X* fans, *Bars and Pipes Professional* was nearly pipped at the post by *Dr. T's KCS 3.5*. It came through in the end though, with a substantial 36% of the vote, thanks to its unusually clear and colourful interface, ease of use and all round power. The combination of professional-quality performance and features, with user-friendly operation seemed to clinch it for Blue Ribbon Soundworks.

BEST SAMPLER

AMAS II - Microdeal This was one of the most fiercely fought categories of all. With so many different samplers available, almost everyone had a different idea as to which was the best. Audio Engineer and AudioMaster IV notched up quite a few votes with their excellent editing options and high fidelity sound, Studio 16 scored a hit for its even higher fidelity, and the value votes went to Megamix Master and TechnoSound. However, above all these, Microdeal's AMAS II managed to come home with a winning margin of 2%, scoring 17% of the vote, with TechnoSound and Studio 16 both earning 15%.



BEST PAINT PACKAGE

DELUXE PAINT IV - Electronic Arts No surprises here. *DPaint IV* won with a landslide vote of 86%! Even the HAM purists have now defected from *Photon Paint*, so the only challenges came from the kid's art package *My Paint*, a few put their cross next to the animation package *Fantavision*, and one or two logged their vote for the Public Domain *Sky Paint*. No contest.

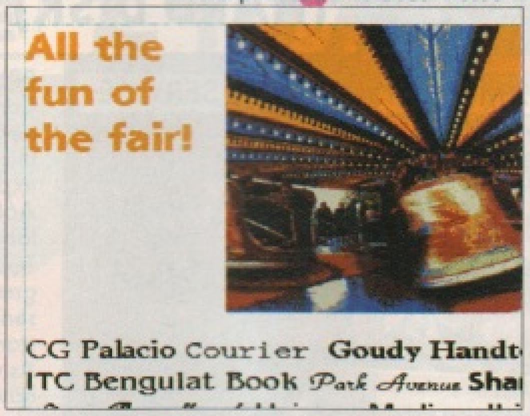
BEST FILE UTILITY

SID 2 - Tim Martin Who needs expensive commercial software when shareware is this good? Tim Martin's highly acclaimed file handling utility won 37% of the vote, but came under heavy fire from the former-PD file cruncher, *Power Packer 4*, which cruised home in second place with 29%. For its life-saving backup and disk-fixing features, *Quarterback Tools* also had a good showing, with an 11% share.



BEST WORD PROCESSOR

WORDWORTH - Digita This was another category that didn't so much split opinion, as shatter it. Everyone seems to have a different idea of which word processor is best. Votes were cast for the PD programs *Text Plus* and *Text Engine*, while *Protext*, *Scribble II* and *Wordworth* bumped up the scores on the commercial side. Although the PD challenge was strong, it wasn't enough to hold off the feature-packed *Wordworth*, which took the title with 18% of the vote.



BEST COMPILER DEVPAC 3 - HiSoft

As expected, it was a bit of a walk-over for HiSoft and *Devpac 3*, totting up a healthy 62% of the vote. The C brigade made their presence felt by voting for *Lattice C* and *Aztec C*, while various other compilers, including *Argasm*, pulled in just enough votes to register on the percentage scale.

BEST VIDEO PACKAGE

SCALA 500 - Scala The last year has seen Scala 500 take over as the premier video titling package. This was reflected in the pole, which earned it a 39% wedge of the votes. Video Studio made good running, coming in at second place with 17%, followed by a flurry of low-ranking also-rans.

BEST SHOOT 'EM UP PROJECT X - Team 17

While many still harbour affections for *SWIV*, *Turrican 2* and *Silkworm*, *Project X* has really captured the imagination of CU readers. The arcade quality shoot 'em up scored a massive hit thanks to the programming and design prowess of ex-demo coders now working for Team 17. The slick-scrolling graphics and frantic gameplay helped it grab a massive 72% of the vote. In second place was Turrican 2 with 10%, while *Silkworm* got itself 1% more than its sequel *SWIV*, coming home with 4%.

BEST ADVENTURE GAME

MONKEY ISLAND II - US Gold Justice is done, and the adventure title goes to the second piratical escapade starring Guybrush Threepwood. The potent cocktail of rum, grog, parrot droppings and sea water proved too much for the electorate to resist. Although it was threatened by the weird and wonderful *Another World*, and also had to brush aside *Future Wars*, *Monkey Island II* made it look easy, with 62% of the vote going its way.

BEST SOFTWARE HOUSE

TEAM 17 Now this was a close one. Encompassing both serious software and game publishers, it threw up a multitude of different votes. On the serious side, Electronic Arts had a strong showing, due in no small part to their excellent *DPaint*, and Gold Disk too had a fair share of the ballots. The gamers votes went to US Gold, and to a lesser extent Ocean, but ultimately it was Team 17 who took the title. Quality products, with a twist of street cred, seemed to tip the balance in the end.

HALL OF FAME ELECTRONIC ARTS

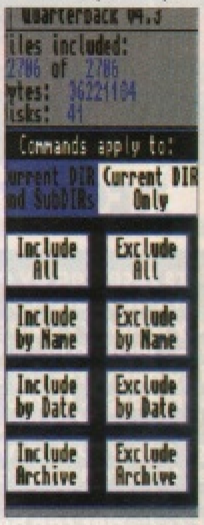
A special category open to any company or individual that has been responsible for continued excellence in the Amiga field, this one was wide open. On the games side, US Gold maintained their popular standing, while Commodore themselves even clocked up a few votes. In the end, though, it was Electronic Arts which got the combined nod from the gamers and the hobbyist voters, which was enough to see them catapulted to the top of the Hall of Fame.

And the rest...

ANIMATION PACKAGE: *Deluxe Paint IV* (Electronic Arts)
RAYTRACING PACKAGE: *Real 3D* (Activa)
STRUCTURED ART PACKAGE: *Professional Draw 3* (Gold Disk)



IMAGE PROCESSOR: *Art Department Professional 2*(ASDG)
INTERPRETER: *Easy AMOS* (Europress)
MULTIMEDIA: *Scala* (Scala)
DISK BACKUP: *Quarterback* (Central Coast)
FINANCE: *Personal Finance Manager 2* (Microdeal)



DATABASE: *Superbase Pro* (Oxxi)
DTP: Professional *Page 3.0* (Gold Disk)
HARDWARE MANUFACTURER: GVP
DISTRIBUTOR: First Computer Centre
GOD SIMULATOR: *Populous 2*
BUDGET GAME: *Rainbow Islands*
FLIGHT SIMULATOR: *F15 II*
MISCELLANEOUS GAME: *Tetris*
RACING GAMES: *Grand Prix*
ROLE-PLAYING GAME: *Eye of the Beholder II*
PLATFORM GAME: *Rainbow Islands*
LICENCE: *Robocop III*
SPORT SIMULATION: *Jimmy White's Snooker*
BEAT 'EM UP: *The First Samurai*

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- Grand Prix • Deluxe Paint III
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SCREEN SCENE

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fIRST

An avalanche of new games is set to hit your Amiga in the new year. First Imps takes a sneak peak at some of the main contenders for your hard-earned cash.

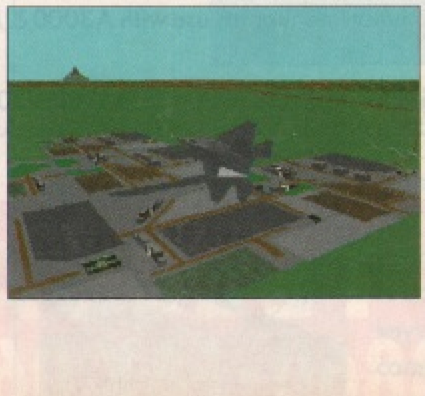
A.T.A.C
MICROPROSE

Due to touch down some time next Easter is the first of Microprose's '93 flight sims. However, *A.T.A.C.* (which stands for Advanced Tactical Air Command) is being touted as much more than your average fly'n'bomb 3D game as it's going to contain a large amount of brain-straining strategy, too, as each mission has to be carefully mapped out before the action can begin. Already out on the PC, *A.T.A.C.* is set in the near future and the Colombian drug barons have tightened their vice-like grip on the world's leading cities. Corporate corruption and violence is widespread and both the judiciary and the politicians have largely fallen under their control.

As part of a secret U.S. Government department, you have been put in charge of an elite team of 150 undercover agents in order to begin a covert offensive against the various gangs and put out of business five of the major cartels. As well as the many soldiers under your command, you will also have a tactical force of four F-22 fighter-bombers and two state-of-the-art choppers at your disposal. You're going to need all that fire power, though, as the drug barons have armed themselves to the teeth with all kinds of sophisticated weaponry.

All this, however, is just an excuse for a futuristic encounter with high-tech firepower and advanced tactical weapons, although your overall objective is to stop the drug barons and bring them to justice rather than wipe them out. Bah, we'll have none of that soppyness around here, thank you very much. A bit of death and destruction never hurt anyone, did it?! Erm, well maybe it did, but this is a computer game after all, so it's alright isn't it?!

Anyway, *A.T.A.C.* is full of the lush 3D polygons that we've all come to know and love from virtually every other Microprose flight sim. There are the usual external camera angles, weaponry inventories and lots and lots of keyboard controls to master. With the reputation that MIcroprose have amassed for top quality flight sims *A.T.A.C.* should turn out to be fun (if you like this type of thing, that is).





IMPRESSIONS

B17 FLYING FORTRESS
MICROPROSE

Microprose's second flight sim for '93 is the Amiga conversion of Vector Grafix' brilliant PC game, *B17 Flying Fortress*. In case you're not familiar with the PC version, this Second World War game involves the player in mounting daylight raids on occupied Europe from American airbases in Eastern England.

Taking control of a B17, it's up to you to command the ten-man crew to the best of your abilities as well as joining up with other bombers on 25 strategic bombing and combat missions. It's possible to take control of a computer-controlled crewman at any time during the course of a mission, with an auto-pilot kicking in if you leave the flight controls.





Hopefully, there will also be a special A1200 version which will take advantage of the 68020 chip to make everything run that much more smoothly than a normal Amiga. The graphics will also match those of the PC version exactly, due to the increased number of colours on screen which the AGA chipset affords.

You'll be able to take to the skies in *B17 Flying Fortress* in the Spring of next year.





COMBAT AIR PATROL
PSYGNOSIS

With over one million square miles of playing area, *Combat Air Patrol* is certainly a vast game as you pilot either an F14 or F18 in the midst of the Gulf War. Yep, Psygnosis have leapt onto the already full bandwagon to release yet another flight sim based in and around the Gulf region during the recent conflict. A 1Mb game, *CAP* lets you choose between taking part in a full campaign, which involves commanding both air and ground forces, or flying individual missions one at a time. Featuring multiple camera angles and a special flypast view, the game also includes day and night scenarios and customisable squadron formations. Psygnosis are also looking to include a serial link option between Amigas, so you'll be able to fly in formation with a friend and help each other out during missions.

The short demo we've had in the office is already running very fast, although it's hoped the final version will be faster still. The plane's animation is incredibly detailed and it's even possible to see the rear tailerons, arrester hooks and undercarriage being lowered and retracted. A 1Mb game, *CAP* will be winging its way onto the Amiga next February.



SUPERHERO
PSYGNOSIS

With a plot that bares an uncanny similarity with Dark Horse's Next Men comic book, *Superhero* revolves around a secret Government research project gone wrong. In an attempt to genetically construct the ultimate human super-soldier, the top boffos at the U.S. R&D labs unwittingly unleash Apex, a malevolent super-being that is evil personified.

In an attempt to cut short his dastardly doings, and end Apex's evil philanderings once and for all, another team of eggheads set out to engineer another super-being to give the rogue muscle-head a serious kicking. This is where you, the player come in. The game starts in the superhero construction lab where you can construct the ultimate warrior. The options available are incredible, and virtually any known superhero can be put together from the array of limbs, lycra jump suits, capes and boots that are placed at your disposal. As well as these aesthetics, there's also the chance to dictate your hero's dexterity, strength, endurance and special powers.

Once you're happy with your creation it's into the main game. In case you hadn't guessed, *Superhero* is a platform beat'em up set over a staggering 1600 screens which pits you against the massed hordes of evil under the renegade Apex's control. Psygnosis are planning to release *Superhero* sometime in February – so watch for this one next Christmas!

SLEEP-WALKER
OCEAN



This one has appeared in these pages before, but as it been through a radical remix for those Comic Relief people, we thought that you'd like an update.

SleepWalker, to which Ocean Software is currently adding the finishing touches, gives gamers the chance to do a good deed, and enjoy themselves. An average of £5 per game sold will go to Comic Relief, amounting to a total of £500,000 for the charity, Ocean hopes. Sponsorship forms will also be included with the game, in which players guide Rover the dog as he keeps his master from harm during his night-time wanderings through all manner of dangers. Sprites in the game will resemble well-known comedy characters. They include a lollipop lady who looks like house-wife-mega-star Dame Edna Everage, a nightclub bouncer with the looks (and manners) of Hale and Pace's 'The Management', and a giant stamping foot – familiar to Monty Python fans.

It's due for release in January, and it's looking good! The parallax scrolling background really enhances the gameplay, whilst Rover is animated with close attention to cartoon convention. Goggle-eyed double-takes, remaining suspended in mid-air and not falling until he realises it, being squashed flat by heavy objects – Rover does all this and more. If the sleeper awakens he'll get a nasty shock – and lose a life.

The six levels are matched by an equal number of bonus levels. These are accessed by collecting the letters of the word 'COMIC', suspended on red noses secreted about the screens. If the finished version proves as enjoyable as it promises to be, it's likely to make you an insomniac!







SOCCER KID

Zool and Putty are has-beens as the latest platform star sprints onto the Amiga. Dan Slingsby dribbled his way up to Rotherham to take a look at a unique soccer-cum-platform game that's set to redefine the genre.

FOOTBALL CRAZY

Best known for their Man United kickabouts, Rotherham-based Krisalis Software are about to change all that with the release of *Soccer Kid*, a game which seeks to combine the arcade playability of a footy sim with a platform game. Based around the 1994 World Cup, the new multi-level kick'n'jump game involves a romp around the world as the impish young star attempts to collect six pieces of the missing World Cup and thus save the competition from disaster.

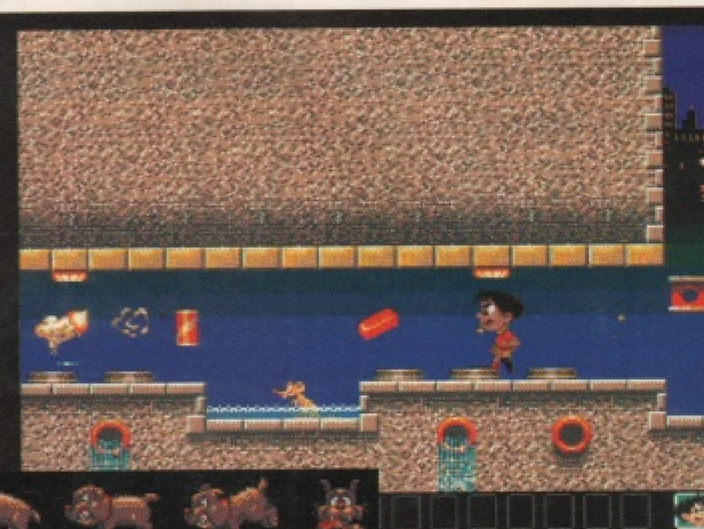
When Krisalis' supremo, Tony Kavanah, announced plans for the new game at the beginning of the year, industry insiders had a bit of a snigger at his expense. Now, the tables have most definitely been turned, as the game is creating considerable interest both in the computer press and from the big console giants. The seemingly unplayable idea has metamorphosised into what is likely to be one of the top ten games of '93.

Work began on *Soccer Kid* back in February 1992 with the game's engine being put together by Krisalis' chief programmer, Pete Harrap, which was then handed over to Nigel Little to design and construct each of the six levels. It's not been a one-man show, though, by any means, as in-house musician, Matt Furniss, and graphics man, Neil Adamson, have had an equal share in the game's overall design and playability. It's difficult to say who has done exactly what as the trio are constantly updating their ideas and introducing new twists and turns at every opportunity.

SILKY SMOOTH

The result is a silky smooth platform romp with an amazing number of trick shots available to the tiny star of the game, as he seeks to negotiate platform-packed screens in his efforts to retrive the missing cup pieces. The football-mad hero has a ball constantly at his feet and with this he can clobber any approaching nasties as well as pick up some of the many in-game bonuses lying around each level. If the ball is kicked too far, it will slowly roll back to the kid, so it's difficult to ever lose possession. There are already more than fifteen shots available to the rotund hero, with the little guy able to lob the ball straight up into the air, perform an overhead bicycle shot, and smash the ball off the screen with a power kick. He's also able to head the ball, either on the ground or in the air and balance or jump on the ball to reach otherwise inaccessible areas. The angle of the ball's flight can also be altered by tugging on the joystick in the required direction.

The control of the ball, more than anything else, is the key to the game's playability. Surprisingly, the control system was one of the easiest things to implement. 'That was relatively easy – most of the hard work had been done by Pete Harrap, although we've added numerous







A sign of a good platform game is one with many hidden stages to find and explore as well as lots of rewards and points to collect along the way. *Soccer Kid* certainly has plenty of these!





The many hours of work that have gone into *Soccer Kid* have resulted in some lush graphics.



It's fun, it's console-like and it's coming to an Amiga near you soon. Keep watching these pages.



other kicks as the game's gone on. The really hard part has been in the game's overall design, making sure each level is suitably different from the preceeding one, and introducing different skills for each one,' mentions Matt.

To help people become accustomed to the ingenious control system, there's going to be a trainer option at the beginning of the game. At the moment this consists of a number of animated sequences showing how to pull off each shot, but in the finished version there will be a special level set in the eponymous hero's backyard where he'll have to negotiate an obstacle course and learn all the necessary skills as he progresses through it.

WORLD CUP

The main game will consist of six levels, each one divided up into three stages, although the team want to add even more if possible. Each level is set in a particular country and each stage has a particular theme releveant to the country within which it's set. For instance, the USA is made up of a beach stage as well as wild west and city sections, whereas the Japanese level involves a mad dash along the roof of a bullet train, a kick around a computer factory and a squishy journey through a rice field section. Other countries covered include the UK, where the game begins, Brazil, Russia and Italy.

There's also going to be the usual end of level guardians, although each one will be tailored to reflect a particular level's theme, i.e. you'll come across a huge American footballer in the U.S. section, a Sumo Wrestler at the end of the Japanese level and even a Pavarotti look-a-like makes a guest appearance at the end of the Italian level. After completing the UK level, most of the other stages can be accessed immediately, except for the USA level and the final encounter with the Alien Prankster, a huge end-of-game nasty who's responsible for nicking the trophy in the first place.

To make things even trickier, there'll be at least a couple of ways to complete most levels, and lots of bonus stages included in the final game. These will be triggered by collecting eleven football player's cards, scattered around each level, some of which will be hidden in underground rooms and others stashed away in inaccessible corners and hard to reach platforms.

PLAYING FIELD

Soccer Kid is going to be a 1Mb game, coming on at least two or three disks. Using a duel playfield mode, eight colours have been used in the foreground and an additional eight for the background. The use of copper effects for the sky further extends the number of colours on screen at any given time and makes the game look even more console-orientated. Running at a rate of 50 frames a second, it looks as if *Soccer Kid* will be as fast as anything in the arcades with huge 64x64 enemy sprites patrolling each level. And, for all you new A1200 users, there's also going to be a special version of the game especially written for your machine.

The game's still not due for release until Easter next year (1993), but things already look fantastic. It's set to appear on lots of different formats, but the Amiga version will be the first to hit the streets. Forget *Parasol Stars*, don't bother with the *Addams Family*, chuck your copy of *Fire and Ice* away – *Soccer Kid* is set to redefine the platform genre when it's finally released. Watch out for it.

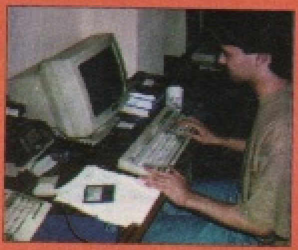
TEAM TACTICS

The three-man team working on *Soccer Kid* have a varied track record and, such is their determination to make the game the definitive platformer available for the Amiga, that they often work late into the morning without any sort of break (the fools!).



MATT FURNISS

Matt's the musical maestro of the team and has already provided the sound effects and in-game tunes for a huge number of games including US Gold's *Outrun Europa* conversion, Cytron from Psygnosis, and Krisalis' own recent release, *Sabre Team*. Still only 19, Matt's also produced a rave version of Rainbow amongst many other such tracks.



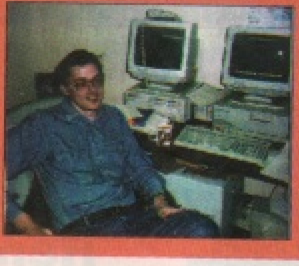
NIGEL LITTLE

Nigel is the programming talent behind ice hockey game, *Face Off*, but we're not going to hold that against him. He's also done numerous Acron conversions of games such as *SWIV*, *Nebulus* and *Lotus 2* during his $2^1/_2$ years of commercial coding experience. And just to show you how easy it is to break into the rough and tumble of commercial games programming, Nige got his lucky start by replying to an ad in his local paper!



NEIL ADAMSON

The graphics for *Soccer Kid* have been put together by Neil Adamson, here being incredibly sad modelling a Rotherham United football shirt. Beazer League here we come, eh Neil?! Starting off working on a Dizzy game for Codemasters, Neil soon saw the errors of his ways and joined Krisalis full time to work on a variety of in-house games.



PETE HARRAP

Pete's the chief coder at Krisalis and the guy responsible for *Soccer Kid's* game engine, the graphic system, map editor and scrolling. As well as providing the rudimentary elements of the jigsaw for the rest of the team to piece together, he keeps in close touch as to how the game's developing and steps in if things look like they're going disastrously wrong (which they aren't, so he hasn't!).



Here's an example of a preliminary sketch done before work started on the computer-aided design of the game.

BODY BLOWS



While *Street Fighter 2* smashes its way onto the Amiga, Team 17 is secretly preparing its own stunning beat 'em up. Dan 'Biffo' Slingsby gets punch drunk with the programmers.



Each country provides a different backdropin front of which to fight your opponent.

COMING TO BLOWS

You've got to admire Team 17. They really have got a latterday Midas touch as their last three releases have shot straight to number one on the software charts. And it's not surprising when you consider the quality of *Alien Breed, Project X* and the recently-released *Assassin*.

Never ones to rest on past successes, though, the Wakefield-based games publisher has already started work on no less than six titles for release during the first half of next year. Of these, by far the most promising has to be *Body Blows*, a game that head honcho, Martyn Brown, is already billing as the definitive Amiga beat 'em up.

To be honest, there really isn't a lot of competition to begin with. To my mind, there's only ever been one decent beat 'em up on the Amiga – Archer Maclean's excellent *IK+* – and that's almost five years old now! I don't want to rubbish a game before I've even seen it, but I really doubt that *Street Fighter 2* is going to set the world on fire or even create a little dense smoke come to that. [STOP PRESS – Okay, I was wrong, we've just had the final version of *Street Fighter 2* in the offices and it's a brilliant conversion and almost certainly the best beat 'em up on the Amiga I've ever played – Repentant Ed]

BODY SLAMMING

Body Blows certainly looks the business if nothing else. Work started on the game almost six months ago, and most of the graphics have already been completed, barring any last minute changes. Although there's certainly nothing like the much-touted '223 unique frames of animation per character' that have reportedly been incorporated into the Amiga version of *Street Fighter 2*, this is because the creative duo behind *BB* have given the game's playability utmost priority. Even so, everything about the game's graphics and animation oozes class thanks to the inventive Japanese-inspired artwork of Danny Burke, *BB*'s artist and game's designer who also came up with the initial inspiration.



After sending some preliminary sketches to Martyn Brown at Team 17, Danny was then introduced to Junior McMillan, the coding brains behind the game and veteran TRS-80 programmer(!). From there, it was simply a matter of exchanging ideas and working out the finer details such as memory allocation, number of combatants, sprite size and running speed.



Each character will have a range of special moves at their disposal, and these will be exclusive to particualr characters.

THOSE SPECIAL MOVES IN FULL

Each character is capable of a number of standard kicks and punches, but when a special joystick combination is used, each one also possesses a number of special moves unique to that character.

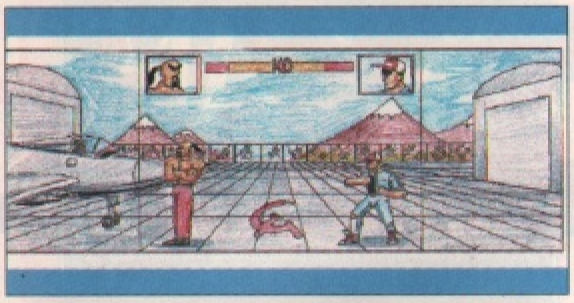
- Dan and Nik are both capable of pulling off a super spinning kick, as well as shooting off a bolt of energy at their opponents.
- Lo-Ray, the Buddhist Monk, can flip his body right over, causing anything or anyone in the immediate vicinity to be sent flying.
- Junior, the Thai-Boxing expert, has a super speed punch capable of power-driving the other player clean off the screen.
- The lone woman of the group, Maria, has the capability to transform herself into a spinning whirlwind and shoot out lethal boomerangs at enemy fighters.
- Cossack, a Russian soldier, can spin himself into the ground and re-emerge anywhere on the screen to confuse his enemies. This will be purely random in the finished game.
- American Wrestler, Doug, has a bear-like body crush as well as the capacity to cause shockwaves to blast across the screen.
- The stiff of the bunch is Mike, a business man. Push him too far, though, and he's capable of spinning across the screen, wreaking havoc as he goes.
- Yit-U is a specialist kung-fu fighter who can pull off huge jumps to get out of trouble and he is also capable of fading in and out of focus (like the ripple effect in Battle Squadron), so is incredibly difficult to pin down.

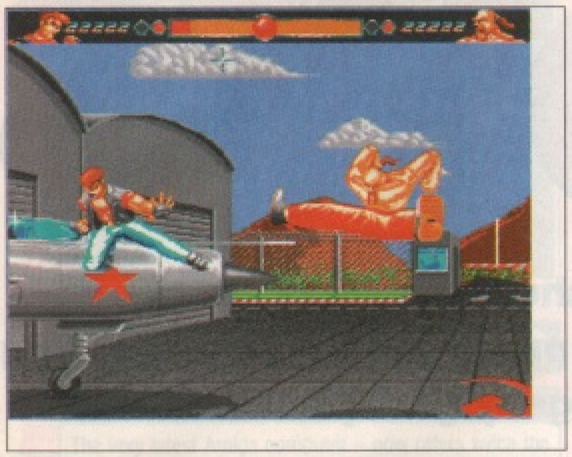
That's not all the characters' moves by a long shot, just the ones that Team 17 felt like telling me after a few pints in the local boozer, so expect many more in the finished game.





Is it just a coincidence that two of the characters are called Dan and Nik? We could be on for a special challenge match between our Editor and Tech Ed because of this when the game's released!





Ooh-er, this brings tears to the eyes. Even a highly trained Russian gymnast of twenty years standing couldn't pull this one off without losing their sense of humour.

To be fair to the team, *Street Fighter 2* has not been that much of an inspiration for the game. Work started months before the SNES version of the coin-op appeared over here and neither have played the arcade machine much. Instead, Danny gives the nod to the Neo Geo's *Fatal Fury* game as providing the initial impetus. 'If you haven't played *Fatal Fury* on the Neo Geo, then you're missing a treat. There's certainly been nothing like it on the Amiga, that's for sure. It definitely beats *Street Fighter 2* hands down. It's so much faster and much more action-orientated than the Capcom coin-op,' drools the London-based artist – well, he had had a couple of shandies, after all!

SPRITE FIGHT

In order to cram in as much as possible, the team have kept the number of on-screen colours down to 16, although the frame rate is an impressive 25 per second and the sprites are much bigger than the Amiga version of *Street Fighter2*. The play area will also cover the entire screen, too, except for a small status bar at the very top.

There are plans to include a total of 11 characters in the game, ranging from Ken and Ryu-clones through to Japanese Ninjas, American Wrestlers and a Buddhist Monk. In tournament mode it'll be possible to choose any of these characters except the mystery eleventh character (see Terminator box out!). Up to 8 players will be able to take part with rounds set at one, three, five or seven. In the normal arcade game, it will be possible to chose from one of the four main characters – Dan and Nick, a pair of kung-fu/karate experts, Lo-Ray the previously mentioned Buddhist Monk and Junior, a Thai boxer with a lethal body kick. From there, each round is set in a different global location (sound familiar, by any chance?) with each character pitted against the remaining fighters in turn.

Surprisingly there's no character vs. character mode, which might disappoint *Street Fighter* aficionados but, as Martin Brown explained, 'It's all very well having such options, but at the end of the day it's playability that counts above everything else. If we were to have included a character vs. character mode and other such gimmicks, then we would have had to have made space savings somewhere else and, ultimately, we may have had to slow the game down. As it stands, *BB* is much faster than any previous Amiga beat 'em up I've seen – guaranteed!'.

UNDER CONTROL

At the time of writing the control method hasn't been finalised. Obviously, with just one fire button on the majority of joysticks, the team have been fairly limited in what they can achieve. The power of punches, kicks and throws will be determined by the proximity of the characters to each other and the various special moves will be triggered by a combination of joystick movements, button presses and good ol' joystick waggling. Music for the game will be typically arcade/console orientated and there will also be more than 100k of sampled speech included. These will be sampled from various kung fu movies as well as various other sources, so every groan and moan will be as authentic sounding as they can be.

The game's scheduled for a late January/early February release and we'll have a full review soon. In the meantime, keep your eyes peeled for next month's coverdisk when we'll have an extra special playable demo of the game, so you can make your own mind up. Are we good to you, or what?!

YOU HAVE BEEN TERMINATED

The eleventh and final fighter is, naturally, the toughest of the lot. And you're in for a treat if you get this far. I don't want to give too much away, but the character is a Terminator-style warrior who doesn't take kindly to being pushed about. At first he assumes a human guise but, once you've beaten him, his skin dissolves to reveal the robot fighter beneath and then all hell lets rip. Danny and Junior are also toying with the idea of including yet another fighter in the game, and this one might resemble an Alien-type warrior. Now that would be something!

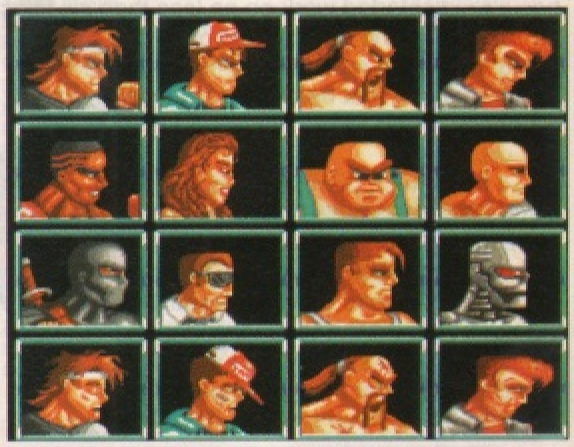


Here's one of the storyboard roughs the team used to present the game to prospective publishers.





Okay, so you're not going to get as many frames of animation per character as you got in Street Fighter 2, but looking at these Sprite bank shots, do you think it's really going to matter.



And here they are, the most motley collection of reprobates that ever graced an Amiga game.

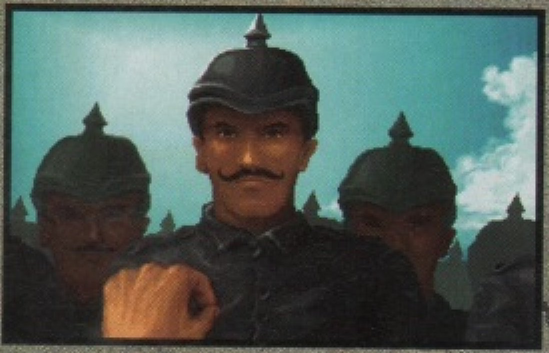


And here's Ken going through one of his spinning kick moves. Or is it Nik? Trouble is, when you're working off a black and white monitor at two in the morning, everything and everyone begins to resemble each other. Still, looks pretty good, no?!

HISTORYLINE

1914-1918





HISTORYLINE 1914-1918 is a strategy war game simulation set in the period of the first world war.

One or two players are able to take control of opposing forces. Choose to take the role of either the Allies or the German-Austro-Hungarian army. From your aerial view, witness the battle as you deploy and then the enemy counters.

Changing seasons, varying quality of terrain, strategically held locations, and well planned attacks by outmanoeuvring your opponent are all critical considerations to be met in order to achieve victory.

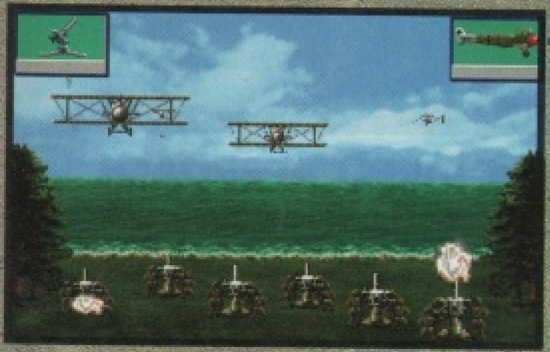
HISTORYLINE 1914-1918 contains a wealth of historical and technical information. This is not only illustrated beautifully on the screen during the course of the game, but is also available for your reference in the extensive and meticulously researched manual.

Making it easy to learn and to play, HISTORYLINE 1914-1918 is a must for everyone interested in an extremely high quality, massively challenging, addictive, and hugely accurate strategy war game simulation.

Hours of enjoyment - *Guaranteed.* You may even learn something!











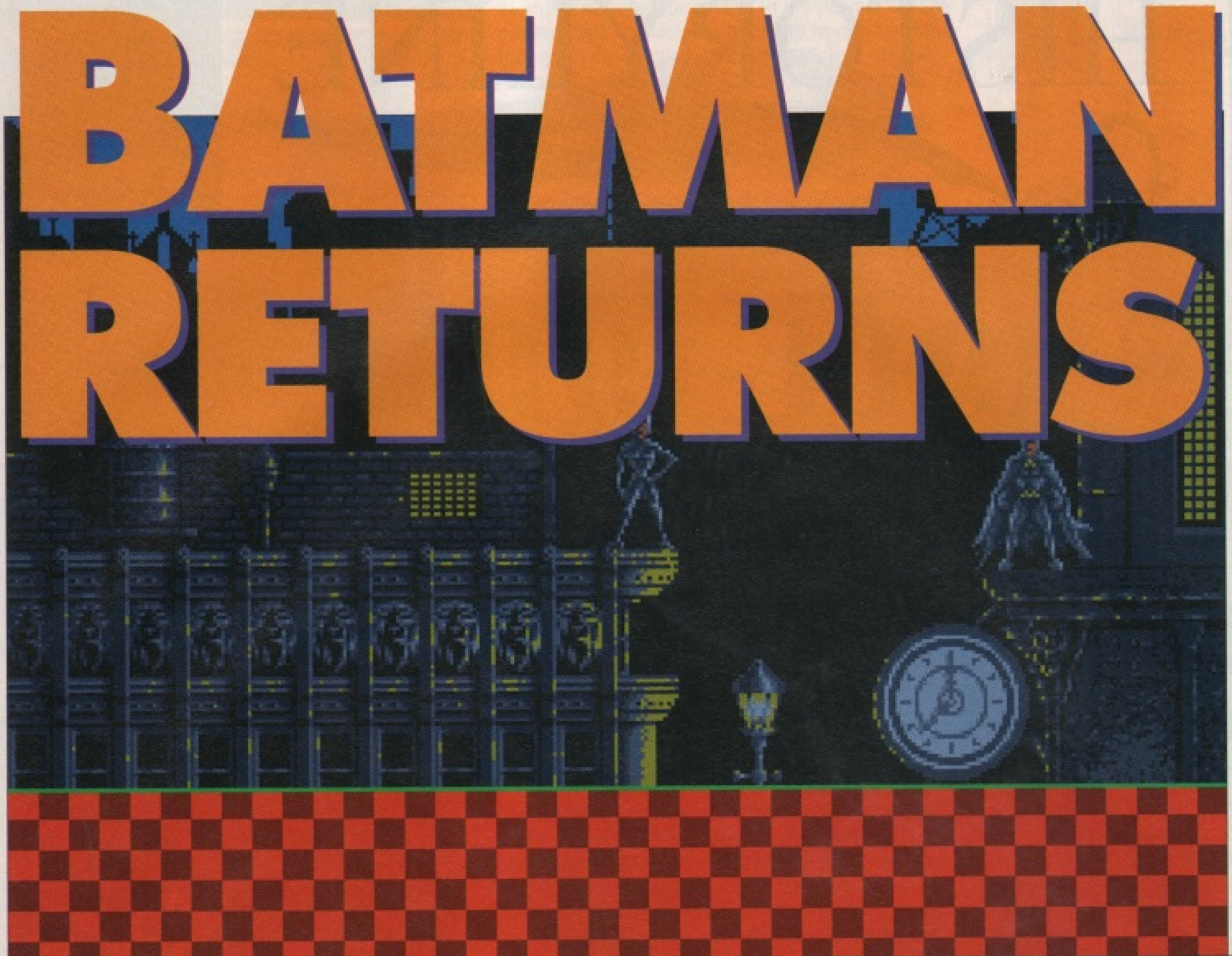
Screen shots show MS-DOS VGA version. MS-DOS version supports Adlib, Soundblaster, and VGA 256 colour mode graphics. Amiga version supports accelerator boards and 64 colour mode graphics.

Designed and developed by the same team who created Battle Isle.
For further information please telephone 0727-868005

Blue Byte

Blue Byte / Play Byte
Aktienstraße 62
4330 Mülheim-Ruhr
Germany

BATMAN RETURNS



Fred Grey, the guy in charge of the music and sound effects in *Batman Returns*, spent a couple of years away from the video games industry to work for the local waterboard. 'It did his head in, so he's back in music again,' explains programmer John Heep.

After watching the movie, chewing the bubblegum, reading the novel, ignoring the toy figures, wearing the T-shirt and buying the video, Rik Haynes eventually finds some time to play the game...



As Batman is always on screen, he has almost 200 frames of sprite animation but Catwoman isn't far off that figure. The Penguin is quite a small sprite but there's still a few frames of him, too.

MERRY MERCHANDISING

Ker-blam! When you're looking out for merchandised goodies from a movie, there's simply nothing better than Batman. This dynamic duo of movies, starring Michael Keaton as the Dark Knight, has made a whole mountain of money. Thing is, Konami's interpretation of *Batman Returns* has missed out on most of the hype.

The game was originally being developed by Rage Software, the team behind *Striker* and a string of Ocean games. Now Denton Designs is reclining in the hotseat after Rage had to give up th project due to other commitments. Was the takeover difficult? 'No, they're just down the road,' responds programmer John Heep. 'Some of the people at Rage Software have actually worked with us before.'

Formed in 1984, after the demise of Imagine, one of the first British software houses, Denton Designs is best known for *Shadowfire*, *Mutants* and *Frankie Goes to Hollywood* on the C64 (with *Batman Returns* also due for release on this veteran Commodore machine). More recently, Denton Designs has produced *World Class Rugby*, *Krusty's Super Funhouse* and *Wreckers* for Audiogenic and Acclaim.

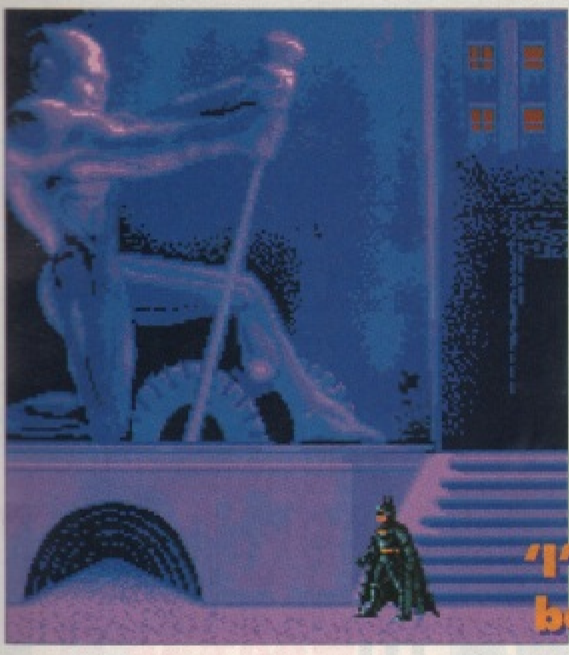


THE DIRECT APPROACH

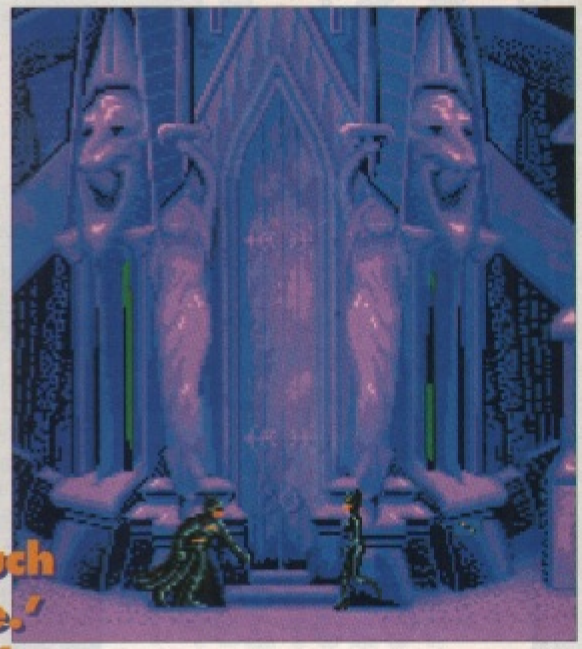
Heep confirms the latest project is loosely based around certain scenes from Batman Returns but he believes the game will stand up in its own right. The team is trying to recreate the dark mood of the film while transforming Batman Returns into a fast beat 'em up. It's a sort of *Street Fighter 2* with groovy Batarangs, Gothic architecture and, of course, the completely dreamy Catwoman.

'I quite enjoyed the movie,' says Heep. 'It's a fun action movie that lends itself well to a computer game. A fortune was spent on the special effects but the plot wasn't too hot.'

Pulling a typical game-of-the-movie stroke, Rage Software wanted to incorporate a few 'puzzle sections' similar to the ones from *Robocop* and *Terminator 2*. For instance, players had to reconnect the wires of the Batmobile before they squashed a helpless







'I'm sure it's going to be much better than the Ocean game.' John Heep, programmer of Batman Returns

old lady. Thankfully, these frivolous trimmings have been removed to improve the flow and immediacy of the game. Heep adds: 'We thought they would slow the action down. Emphasis will be placed on the number and ferocity of adversaries.'

Unlike the first Batman game from Ocean, there's no chance to drive the sleek Batmobile. Instead, players take control of the Caped Crusader and dispatch a barrage of baddies before the final confrontation with The Penguin and his pesky pals.

BAT-TASTIC

Batman just wouldn't be Batman without a few neat gadgets stuck up his utility belt. In the game, he can call on the help of Batarangs (a kind of smart weapon that moves about the screen hitting Batman's opponents), Batdisks (hard metal frisbees that can be thrown horizontally or diagonally upwards and modified inflight by some aftertouch) and Body Armour (makes Batman immune to attack for a limited amount of time). He also collects Bonus Bats for extra lives, strength power-ups and bonus score tokens. Sadly, there's simply no sign of any shark-repellent Batspray. [That's the wrong Batman, stupid! – Ed.]

Anyway, things are shaping up fine and if the scrolling demo that I've seen is anything to go by, this could be one of the hot games for '93. Time and programming will tell. It's due for release in the Sping and CU Amiga will, of course, bring you a full review as soon as possible.

RIGHT SAID ALFRED

Prepare yourself for a dreadful disappointment! Alfred, Batman's faithful butler, won't be in the game. There's no sign of Robin, either. Perhaps they'll appear with The Riddler in, erm, Batman Rides Again?

HOLY LEVELS, BATMAN!

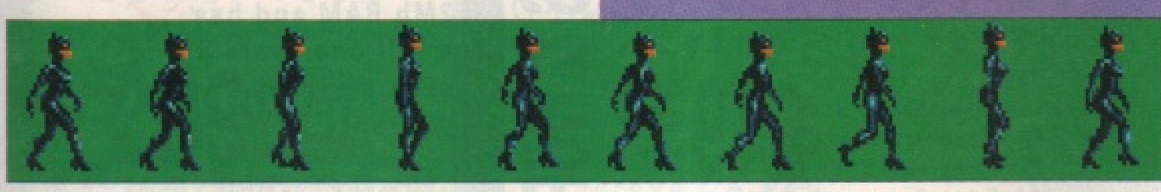
STAGE 1 - In full festive spirit, the voluptuous Ice Princess tries to light the Christmas tree in Gotham Plaza. Holy gatecrashers! The Red Triangle gang arrives to spoil the party. Batman must battle this hideous horde of circus criminals before rescuing Selina Kyle from the clutches of an evil clown. Once he's grabbed the grappling gun, Batman brings the curtain down on this foul felon.

STAGE 2 - There's broken windows, graffiti and the ominous fiery skyline. The Penguin is floating around on his heli-umbrella, dropping bombs on Batman. Gotham's guardian must also avoid manhole traps, exploding cash dispensers and Penguin's pet poodle. As Batman is hit, his strength is reduced. Luckily, power-up tokens are available to replenish his crime-fighting capability.

STAGE 3 - The Bat confronts The Cat on the rooftops of Gotham City. Watch out for the gargoyles, pillars and Batsignal in the sky above. 'The combat style will be very fluid and acrobatic,' confirms Denton Designs. 'A platform level involving a lot of leaping and somersaulting from ledge to ledge. Batman fights off Catwoman but she always lands catlike on her feet on another ledge till she falls into a sandtruck.'

STAGE 4 - Believing him to have kidnapped the Ice Princess, the police shoot at Batman as he dodges steam vents and flame-belching chimneys. The Dark Knight also encounters vampire bats, thug acrobats, The Penguin and Catwoman. If Batman has collected the Batwings token he will safely glide down to the ground.

STAGE 5 - Up against killer robot penguins armed with destructive missiles, Batman enters the Arctic World of The Penguin's lair. He can use ledges, vertical drops, old rusting ladders, trampolines, springboards and trapezes to avoid the toxic water below. That feathered fink appears on his enormous yellow duck and attempts to bust Batman.



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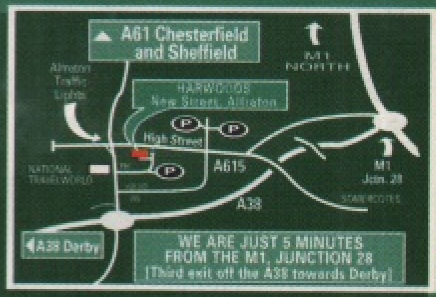
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On hearing the latest Indiana Jones movie had just been released on the computer screen, Tony Gill grabbed a box of popcorn and set off in search of the man in the battered fedora.



Pop up to the attic for a look around.Indy may find something useful up there.

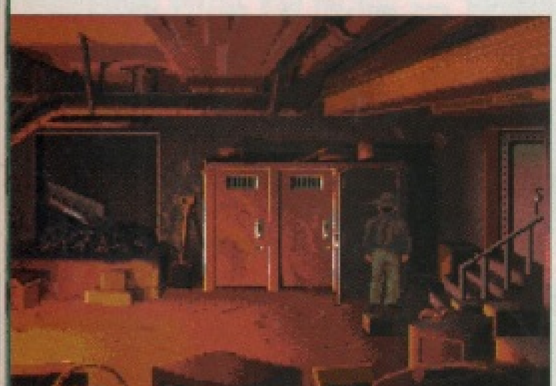


GLOBE SPANNING

It's just possible that Harrison Ford has blown the opportunity to star in the greatest Indiana Jones movie that has never been made. Lucasfilms has taken the now familiar ingredients of the Indy sagas and woven them into a top-notch adventure game which spans the globe. Nazi agents are hot on the trail of an extraordinary substance called Orichalcum, which could help Hitler's scientists create a Super Bomb and thus decide the outcome of the war. The clues point to the lost city of Atlantis and the only thing that stands between them and world domination is our laconic hero.

It's that old Greek philosopher Plato that we have to blame for the whole business. His tales of a mighty civilisation which used Orichalcum to power huge machines, and even fuel flying craft, have sent Nazi spies sniffing around ancient burial tombs in search of Plato's missing filofax. The bad guys are convinced that Plato was not just a crazy Greek Kebab seller with an interest in fairy stories, he really did have the goods on an ancient power source and its location is hidden in his old papers. But where is Plato's old manuscript now? Could the writings pin-point the spot where Atlantis stood and perhaps lead to a hoard of the vital Orichalcum? It seems that despite all the splendour and power which the ancients possessed, they were unable to save their city when the sea rose up and drowned its inhabitants. However, Indy suspects that although Plato was a dab hand at essay writing, his mathematics left a lot to be desired and in fact the calculations that placed the city in the middle of the Atlantic were wrong. If Indy's theory is correct the submerged city is in the warm waters of the Mediterranean where anyone who isn't afraid of hitching a ride in a German U Boat could prove the point.

But we are getting ahead of ourselves. Before we can go skinny-dipping in the Med we have to visit Iceland, The Azores, South America, France and the Sahara



The college basement looks like the place to find useful objects, and it's also got a slippery chute leading to the floor above. Getting down the chute is easy. The trick is to get up again!



Somewhere in this Arab shop there is sure to be something that's worth taking home as a souvenir, but what is it? He's got everything from a genuine piece of the real Cross to the latest Zippo lighter, so there must be a bargain that's worth haggling over.



Getting from one side of a jungle crevasse to the other might seem to have an obvious answer, but look again. That large green vine wrapped around the tree trunk is breathing! If there is one thing that Indy can't stand it's snakes, so think again.

NEVER MIND THE CONTENTS, LOOK AT THE BOX!

It is possible for a software company to buy a big movie license and produce an 'Empty Box' game which will make big money. An 'Empty Box' game is one which the public will buy, and not even care if there is little or nothing inside it. Remember the Teenage Mutant Turtles game? The reviewers panned it and said it was rubbish, but it still made the number one spot in the polls and the kids fought to get their hands on a copy. Software houses know that if they produce a game with Bart Simpson or Batman on the cover they have a licence to print money. There seems to be a never-ending queue of punters who will spend their cash on anything connected with their personal passion. (I believe there is a fortune waiting to be picked up by the team who get the rights to produce a Star Trek Pot Noodle!)

Knowing that you can fool 'some of the public, all of the time', it is all the more credit to Lucasfilm that it has gone to such extra-ordinary lengths to produce a game which is worthy of the Indiana name. Why does it bother to do it? It's simply because it is smart. It knows that sooner or later you will start linking the name Lucasfilm with quality and you will choose the box with that name on it – rather than the box with the picture of the latest comic hero which doesn't make any noise when you rattle it!



The ancient Aztecs were as sneaky as the Egyptians when it came to hiding secret doorways in the burial pyramids. You just know there has got to be a way through this rock wall, but the solution will take a bit of thinking about.

Desert. I trust you have been saving your Air Miles tokens?

The Fate of Atlantis has all the ingredients for the makings of a mega-adventure film which would top everything we have seen so far. We may never see the movie, but by combining the exciting storyline with an easy to use control system, we do have a great game. As well as exercising your trusty bullwhip, you will be called upon to steer a camel, drive a jeep, pilot a submarine and fly an air balloon. (You certainly get your money's worth when Indy is in the driving seat.) Don't worry if you are not a fan of nimble fingered action, for these excursions into arcade action are fairly simple and won't cause too much pain.

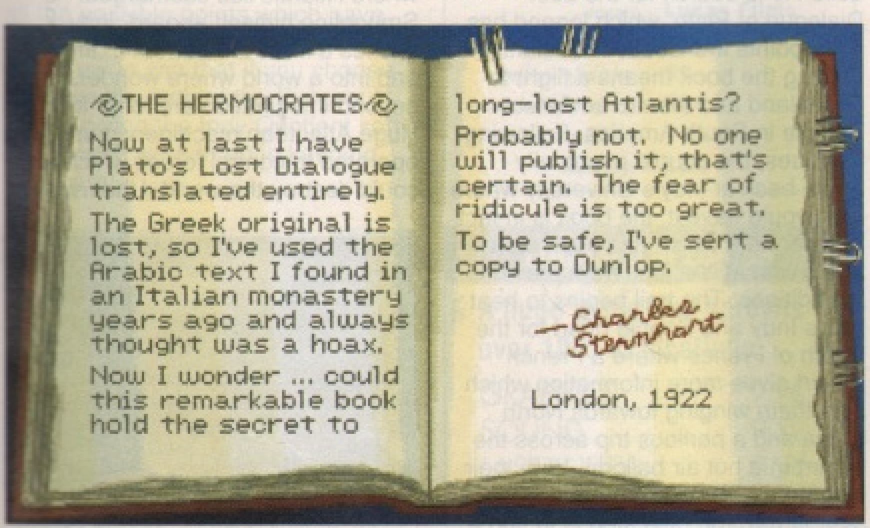
PICK YOUR FATE

Do you hate arcade action mixed in with your adventure, or does the addition of a punch-up add spice to your feast? Are you searching for a single-minded challenge, or would you welcome a partner who can offer useful suggestions when things get tricky? Whatever your decision is, this package is just right for you because it has all options in the one game.

After battling your way through the initial stages you will come to the point where you may decide how you wish to play the remainder of the game. You may decide to take the Fists path, which enables you to let your brawn rather than your brain take the strain. With this option you needn't waste time wondering which cunning option will get you out of a tricky situation, you simply opt to 'bop' anyone who gets in your way. In this case Indy will deliver uppercuts and haymakers at your command, and providing your sense of timing is right you can beat a path to success.

Alternatively, you can choose the Team path which lets the lovely Sophia tag along and lend her womanly wiles and helpful suggestions when things get tough. (That girl could charm the pants of Himler!) In this case, awkward customers tend to be more helpful than they ordinarily would be. In addition, when every way you turn seems to lead to a dead-end, and you've even forgotten what you were looking for in the first place, your beautiful assistant can sometimes come up with an idea which will put you back on the right track.

Finally, for those amongst you who enjoy doing things the hard way the game offers the Wits path. In this case you are on your own and the game will 'take no prisoners'! Steely determination and the will to succeed are needed here, but no doubt you're



The Greek philosopher Plato wrote many strange tales in his secret notebook. He did this to record for posterity the secret location of Atlantis – and to give modern schoolboys a headache trying to translate it.

STONED IN ATLANTIS

It seems that the ancient Atlanteans had a 'thing' about creating secret doors which could only be opened with the aid of circular stones rotated like a safe. You will spend a good deal of your time finding these hidden wheels and reassembling the mechanisms. Plato's lost Dialogue contains the clues you'll need to find the combinations, but it still can be a puzzle.



INDIANA -THE MOVIE

Three Indiana Jones adventures have made it to the big screen – Raiders of the Lost Ark, The Temple of Doom and The Last Crusade. The first film came about because the director Steven Spielberg had just made a financial turkey called 1941, which had flopped, and he wasn't sure what to do next. At this point his old friend George Lucas (who had created the Star Wars movie) approached him with a script he had written called Raiders of the Lost Ark. The film was made for 20 million dollars and went on to make 200 million dollars at the box office. Because of this success, Spielberg regained his confidence and decided to make a film he had dreamt about making for many years. The film was about a small alien who came to earth and was befriended by a boy. The rest, as they say, is history.







THE CAST

INDIANA JONES

College Lecturer on Ancient Civilisations and Exotic Antiquities. Expert with bullwhip, bare knuckles and the lightning one-liner. Brave, patriotic, but a sucker for a pretty face.

SOPHIA HAPGOOD

is a pretty face! Sophia is also an archeologist who has gone commercial. Having assisted Indy on archeological digs in the past, she now gives lectures on Atlantis to the general public, which she spices up by claiming she gets personal messages from a ghostly spirit guide. She owns a rare Atlantean necklace which she 'borrowed' from an ancient tomb. On occasions she can create wondrous effects with her necklace by placing a rare bead of Orichalcum into it.

DR. HANS UBERMANN

Chief Scientist in Hitler's Reich. Warped, evil genius who has big plans for the Orichalcum . While the German Army hopes to use the power to fuel their tanks, Ubermann has wilder dreams of building the ultimate Atomic bomb.

ADVENTURES ARE TOPS



The Secret of Monkey Island really hit it big for Lucasfilm and its superb graphics and easy gameplay proved popular with all gameplayers. The bumbling apprentice, Guy Threepwood, has since gone on to reappear in the sequel – *Le'Chuck's Revenge* which was an even bigger hit.

There was a time when software houses couldn't give away adventure games, but times they are a-changing. There is big money to be made out of high quality graphic adventures and most publishers are keen to have a stake in the business. The Sierra Company ruled the rating for a few years with their highly successful '*Quest*' and *Leisure Suit Larry* series', but their popularity waned with Amiga owners as their games became targeted more at the growing PC market. The number one publisher in this field is now undoubtedly Lucasfilm who has a long list of prize-winning games to its credit: *Maniac Mansion, Indiana Jones and the Last Crusade, Zak McKracken, Monkey Island I* and *II* and *Loom.* All of these have been greeted with praise and plaudits from gameplayers. French and British software houses have also had success with their efforts. Delphine is the French software house who produced *Future Wars, Operation Stealth* and *Cruise for a Corpse* and saw each of them hit the top ten in Britain. Britain's own Horrorsoft Ltd. brought creepy terror with its distinctive offerings of *Personal Nightmare* and the *Elvira* games, plus its soon to be released *Waxworks.* Other British offerings include Core Design's *Curse of Enchantia*, and *Lure of the Temptress* from Revolution. The very latest contender who has thrown its considerable talent into the ring is Westwood Associates – the team which created the *Eye of the Beholder* games. Publishing through Virgin Games, Westwoods has released *Legend of Kyrandia* as the first of a series of graphical adventures and it has been receiving rave reviews from most magazines.



Zak McKracken is an early Lucasfilm adventure, which concerns the efforts of a journalist from a sleazy newspaper trying to stop aliens turning everyone into mindless morons by sending signals down the telephone lines. The game is full of jokes and allows you to move your control between Zak and his girlfriend.

made of the right stuff.

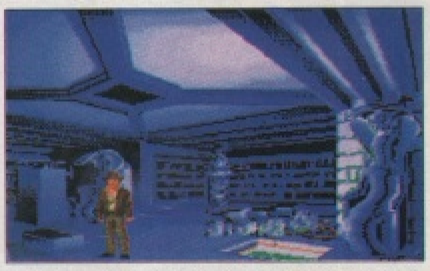
Unlike other games which claim to have multiple gameplay built in, these options are truly different. Although the paths criss-cross each other at key stages, there are many occasions where you have completely different puzzles to solve. For this reason you really can play the game more than once and get a second helping of fun.



It's dark in the loft and there are so many strange objects to identify. Somewhere around here is an object of value, but how are you going to find it amongst all this junk?

THE PLOT THICKENS

The game closely follows a storyline which could be lifted word for word from an Indiana Jones film. Opening in Indy's University, we find our hero searching for a small statuette amidst the old collections of artifacts stored in the attics. With this retrieved, we return to his office to display our find to the University Head and his visitor. No sooner does our mysterious visitor get his hands on the item then he reveals himself as a Nazi spy and makes off with his find. Realising that there is dirty work afoot, Indiana decides to make contact with an old friend, Sophia Hapwood, in New York, who he suspects knows more about this business that she has admitted. Sophia convinces Indy that there just may be some truth in the old legend of Atlantis and the secret power source held within the weird mineral, Orichalcum. The couple decide that the best course of action is to search for the Lost Dialogue of Plato, which legend has it pin-points the location of Atlantis. Finding the book means a flight to Greenland and then to an Aztec Temple in South America. Following the clues, the couple eventually arrive back at Indy's University where luck would have it, the book is in fact another item which has been stored along with all the junk from previous expeditions. The trail begins to heat up as Indy and Sophia head for the South of France where a French expert gives more information which sets them winging towards North Africa and a perilous trip across the desert in a hot air balloon. With their inventory of strange items growing ever larger, the next step is to find a lonely island in the centre of the Mediterranean where a secret entrance leads to a long forgotten series of caves containing old statues and a wondrous model of the lost city. At this point the Nazis begin to close in and Sophia is dragged away to a German submarine, which is preparing to dive to the very spot where Atlantis lies submerged. Smuggling himself aboard, Indy hitches a lift to the bottom of the sea and into a world where wonders beyond imagination are to be found. Huge Atlantean machinery must be operated to control forces which still could destroy the world. Underwater



A totem pole makes an ideal ladder when you need to get into the loft. The trick is to find out what you need to manouevre the unwieldy block of wood into the right position.



After spending so long searching for books in the library of his first adventure, you would think Indiana would have had his fill of literature, but here he is again searching for a best seller.

volcanos spout rivers of fire, which threaten hero and villain alike. Can Indy save himself, the girl and the world? You had better believe it!

All of these considerable options and 'splendiferous' graphics do have a 'downside'. For a start, the game fills up 11 disks. If you are an old campaigner of the Lucasfilms games who has already won their spurs in the *Monkey Island* epics, then you'll know what you are letting yourself in for. When contemplating playing games such as these, a hard disk becomes a necessity rather than a luxury. It can be played from floppy, but things can get a little wearisome. A second important factor is that the game is pushing at the limits of the Amiga's graphic-handling capabilities, and there are a few occasions where the strain becomes very obvious.

INDY'S IQ TEST

As well as making life more interesting by providing multiple paths through the game, the writers decided to let you solve some puzzles with more than one solution. There are also some amusing features which have been added just for fun. You may overcome a puzzle using the obvious solution, or can stumble on a tricky alternative. The game awards you extra points for every nook and cranny you manage to shine the light of reasoning into, and these points are added together to give you an IQ rating. It is possible to bulldoze through the game and complete it, with all the finesse of a drunken elephant, or you can spend time experimenting with every situation until you pick up all the possible points which have been cleverly concealed there. Needless to say that if you choose to follow the path of the Fist, you'll not be giving the Indy Quotient software much work to do in keeping the score!

CONTROLS

Normally you will control Indy's movements and actions by means of the mouse pointer, but you can use cursor and keyboard controls if you wish. No typing is required to create a command line, you need only select the actions from the list of options below the main screen. If you point to an object in the main screen the game intelligently illuminates the likely command you'll want to use from the list of options available. Clicking the right mouse button instantly uses that option without you having to move the pointer off the main screen to select it. (That's what we call Ergonomics my dear Watson!)

CONCLUSION

Without doubt this is a brilliant graphic adventure. The setting of the difficulty level for the puzzles is just right for the person who likes the idea of playing an exciting adventure, but who doesn't want to be hassled by obscure puzzles. This is a huge game which sprawls over endless locations, all of which are beautifully illustrated. The designers have tried to cram in everything you could want in a game and in so doing have given the standard Amiga a huge task to cope with. If you can forgive the occasional lack of sparkling response from your computer as it struggles with the large animation sequences, then you'll be rewarded with a game that will keep a smile on your face for weeks.

buyers guide

release date	Out Now
genre:	Adventure
team:	Lucas Films
controls:	M/K/J
numbers of disks:	11
number of players:	One
hard disk installable:	Yes
memory:	1Mb



When you feel you really need to get away from all the noise and bustle of the town, all you need do is take a walk to the roof and find the balloon man. If you've got a ticket you can take a test flight and try out your ballooning skills.

LUCASFILM £34.99

"A huge game that sprawls over 100s of locations."

GRAPHICS	95%
SOUND	90%
LASTABILITY	85%
PLAYABILITY	90%

OVERALL 90%

EDUCATION WAS NEVER THIS MUCH FUN

Noddy's Playtime is a graded creativity and entertainment package for home computers based on solid educational principles for 3-7 year olds.

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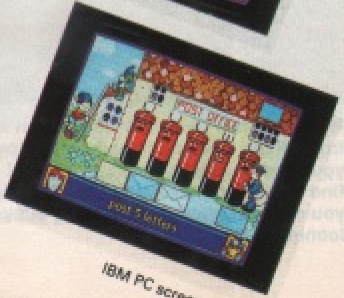
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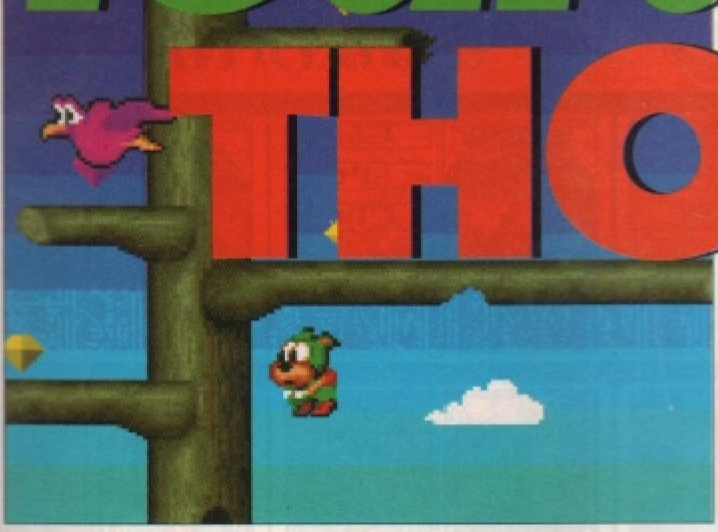
IBM PC screen shots

NODDY'S PLAYTIME

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tearaway THOMAS





Faster than a speeding pensioner, able to leap tall curbs in a single stride, Dan Slingsby dons his red lurex catsuit to review one of the fastest platform games ever to appear on the Amiga.

MONKEY BUSINESS

Easily carrying off the award for worst title of the year is this new offering from newly-formed Global Software. *Tearaway Thomas* is being touted as the fastest-moving game on the Amiga and a potential *Sonic* beater, but you'd never guess from the title – it sounds more like a children's bed time story than a state-of-the-art home computer game. Whoever came up with such an appauling name should be taken out and shot, as they obviously have no idea how to market a game at all. This is further evidenced by the gaudy and tastless packaging the game comes in, which looks like it was put together by a chimpanzee and a set of crayons.

This is all a great pity, as the actual game itself is really rather good. So good, in fact, that I've been unable to stop playing it for the last couple of weeks. It's a platform game, pure and simple, with the emphasis on speed and reflexes. The graphics are cute and simple, the music irritatingly hummable, and the action non-stop. Forget the awful plot – some nonsense about a quest to find out who you are – and jump straight in to a 50-level romp, complete with numerous nasties, bonus levels, special stages, hidden rooms and everything else you'd expect to find in a top notch platformer.

In all there are five worlds to complete, with each one split up into 10 levels. Each world has a particular theme. For instance, the first world is set in woodlands and is populated by marauding bears and big fat birds. Even a tweety-bird lookalike makes an appearance on one stage. Other worlds include a polar region, with polar bears kitted out in bobble hats, a horror world, a world made up of toys and the final future zone, with robotic nasties to take care of. The aim of each stage is to collect a set number of gems within a certain time limit. If you fail to pick up enough gems in time, you automatically lose one of the three lives you start the game with.



The woods are full of obstacles like this one. Just the thing to slow our hot footed friend down.

NASTIES ON STUN

Although there are plenty of nasties roaming each level, their only function is to stun you and thus lose you valuable time. Each encounter will cost you approximately one second as Thomas falls to the ground with stars spinning around his head. Once back on his feet, it's back to collecting the requisite number of gems. When this is achieved, an exit will open through which you have to escape before the time limit runs out. It's nice to see a platform game which doesn't rely on energy levels and which puts the emphasis on a race against the clock. This is much more fun and really makes for non-stop action as you frantically search for the gems.

Just when you think you've explored every possible nook and cranny, and that last gem is nowhere insight, you'll stumble upon a secret room or cave which will be stuffed with extra gems or find a hidden transporter which will warp you to another stage packed full of goodies. At times, things get incredibly manic, but never frustrating. Thomas is able to climb ropes, cause mini-earthquakes by jumping up and down in certain spots, and can generally dash around each level with amazing speed. I certainly haven't played a platform game on the Amiga which is as fast-paced as this one!



Thomas is a speedy little chap. Unfortunately, as the levels progress he has to grab more and more gems against a rapidly diminishing time limit.

CLOBBERIN' TIME

Of course, no game is perfect, and *Tearaway Thomas* is not without fault. Although the nasties can stun you into submission, there's very little you can do to them other than jump on their bonces for some extra points. This is all very well, but it would have been nice to have given them a taste of their own medicine, or even to have been able to club them off the screen all together. As it is, they merrily carry on their way, no matter how many times you crack them on the head. There's also a distinct lack of variety in the nasties. In the early stages there are only one or two different enemy sprites patrolling each level and, although things improve later on, it's a bit boring. A little more planning an originality would have helped things tremendously.

Considering this is David Henney and Nick Frampton's first Amiga game, they've certainly turned in a cracking job. The scrolling is silky smooth, the graphics platette suitably gaudy, and the speed of the main sprite amazingly quick. At times, as Thomas tumbles about the screen, it's hard to keep up with the pace of the action. Definitely a superior platformer and well worth the price.

buyers guide

release date	Out now
genre:	Platform
team:	Head-on tech.
controls:	Joystick
numbers of disks:	1
number of players:	1
hard disk installable:	No
memory:	512k

GLOBAL SOFTWARE £25.99

"Hijinks in a superfast game against the clock"

GRAPHICS	82%
SOUND	79%
LASTABILITY	83%
PLAYABILITY	86%

OVERALL 84%


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UGH!

Before man invented the wheel he had a go at running a skyborne taxi service. Dan Slingsby catches a lift with a prehistoric high-flyer.





The last time I used a black cab it was obvious that evolution was something that had passed taxi drivers by.

Ugh! is essentially a prehistoric version of *Lunar Landar.* Man has invented a flying taxi, cobbled together from bamboo poles, overgrown leaves and sticky tape (!), and is busily eking out a living transporting the rest of his tribe around their high-rise cave system. The trouble is, the wobbly 'copter suffers from incredibly bad inertia, so while you're busy pulling in one direction on the joystick it's still travelling in the direction you sent it previously and is slow to respond to any new commands.

The aim of each of the 70-odd levels is to guide your airborne ancestor around the many different cave systems, picking up tribal members and taking them to where they want to go. At first things are incredibly easy. For instance, level one merely requires you to pick up three tribesmen and take them to a different cave entrance. Later on, things become much more hectic, as the number of trips slowly rises and the number of obstacles increases. These include a flying pterodactyl which swoops in to knock you off course and a charging rhino who likes nothing better than tossing your human cargo into the watery pit at the bottom of the screen.

Landing the craft requires pinpoint accuracy – land too hard and both you and your passenger fly off the screen. All the trips are against the clock, too, and your fee for transporting each tribesman dwindles away the longer you take to complete the journey. Each level consists of just one screen, but each one is suitably different to offer something new. Often, the cave entrances demand a steady hand to reach them as you have to guide your craft through a maze-like construction of cliff faces. There are three difficulty levels in the game and these relate to the number of hits your craft can take as well as the time you're given for completing each stage. If things are getting tight, each level also has a fruit bearing tree which, when hit by a stone, produces a number of energy fruits. Once picked up, these fruits extend the time limit, giving you vital seconds to complete the round.

Ugh! is a very well put together game, with smashing looking graphics, neat sound effects and some difficult if repetitive puzzles to solve. There's also a neat two-player team mode where you have to work in tandem with another taxi service.

Unfortunately, *Ugh!* is a game built around one idea, and a very poor one at that. Players will soon become bored with the repetitive nature of the gameplay. There are few surprises in the game's later levels and the whole thing becomes very plodding after a while. Okay, so there are one or two nasties to take care of and the time limit offers a bit of a challenge, but merely transporting the assorted tribesmen and women from point A to point B and then back again is not my idea of fun. Nor yours, I would hazard a guess. Definitely a case of try before you buy!.

buyers guide

release date	**Out Now**
genre:	**Arcade Puzzler**
team:	**Ego Software**
controls:	**Joystick**
numbers of disks:	**1**
number of players:	**1/2**
hard disk installable:	**No**
memory:	**512**

GLOBAL SOFTWARE £25.99

"Superficial gloss cannot mask the poor gameplay"

GRAPHICS	84%
SOUND	60%
LASTABILITY	55%
PLAYABILITY	58%

OVERALL 58%



GOBLIINS

Those impish stars of the first *Gobliiins* game are back with some more devilish puzzles to solve. Dan Slingsby investigates.

The slapstick humour of the original *Gobliiins* game made for an enjoyable, if undemanding, little puzzler. The cartoon-like animation and incidental humour worked a treat as you guided three small goblins over a series of 22 screens in search of a cure for their king's madness. Unfortunately, *Gobliins 2* is a rather dull and frustrating sequel. Whereas the first game's puzzles were fun to solve, the new game is virtually unplayable as the puzzles are completely unfathomable and nearly always illogical.

For those of you who like to have a reason for joining in such malarkey, here it is: The king's son has been kidnapped by the Demon King and two new goblins have been enlisted to ensure his safe return. Fingus is a serious sort of chap whereas Winkle's a bit of a joker and the comic interaction between the two is just as good as that of the first game.There are seven worlds to travel through, each made up of three or four screens, and each is jam-packed with an assortment of brain-straining puzzles and clues to solve. Each character is moved about the screen with a succession of mouse clicks on the required area and this is also how interaction between characters is carried out. There's also a new pull-down menu screen for swapping equipment and to access new screens. Rather than give the two new characters special skills, such as object manipulation, strength or magic as in the first game, Fingus and Winkle are just as competent as each other. However, the twist here is that one of them will always be more adept at carrying out certain tasks than the other. Finding out which one is best suited for each task, though, is usually just down to trial and error.

Very few of the game's puzzles follow any sort of logic, and this can be incredibly frustrating. If I hadn't been given a player's guide to help me get onto some of the later levels, I'd probably still be tearing my hair out. There are a few on screen prompts that offer small clues about what to do, but they're just not enough. I mean, how was I to know that the chicken had to be hit over the head with a sausage and half-tickled to death before it would produce the egg that I needed for later on in the game? With such pathetic logic, the game is reduced to a plodding exercise of trial and error. And they expect us to pay 30 quid for this? That's about the only laugh I got out of the entire game. Avoid.

buyers guide

release date	**Out Now**
genre:	**Puzzler**
team:	**In House**
controls:	**Mouse**
numbers of disks:	**3**
number of players:	**1**
hard disk installable:	**No**
memory:	**1Mb**

COCKTEL VISION £29.99

"Poor quality follow-up to the original ribtickler."

GRAPHICS	84%
SOUND	52%
LASTABILITY	41%
PLAYABILITY	30%

OVERALL 40%







Chun reels from one of Zangief's nastier punches. The USAF don't seem to mind much.



He's down! One quick chop to the throat and Zangrief falls while G the glory.







TOP: If you manage to survive through a few fights you will be given the chance to demolish various oil drums and barrels. Waht did they ever do to you!



Unlike most versions of the arcade game, *Streetfighter 2* Amiga lets you both play the same warrior.

Blanka's in trouble! After a particularly nasty knock, players roll a clutching their heads and praying for Anadin.

STREETF

Tony Dillon finally gets a chance to show the world that he can dish out a good kicking as well as the next bloke.

IT'S PHENOMENAL

Everywhere you turn, you can't miss it. *Street Fighter 2* has become a phenomenon unto itself; not quite as big as *Mario*, but twice as exploited. The *Street Fighter 2* coin-op has already become a classic of the Nineties, with more than a little help from Nintendo's spurious advertising campaign. It all seems a far cry from the days of the original coin-op, made famous by its gigantic, pressure-sensitive fire buttons that you literally had to pummel if you were going to make any indentation on your opponent's energy level.

SURPRISE ATTACK

But that was years ago, and now *Street Fighter 2* rules the arcades in a way that no other game has. Nintendo aren't complaining, as their SNES version has become the flagship title for their machine. There are even stories circulating of people being mugged as they take their newly-bought carts home. Has a game ever caused such 'enthusiasm' – I think not. Now, after nine months of solid coding, the Amiga version is unveiled for all to see, and sat in a backroom of US Gold's plush Birmingham offices, I must admit to being pleasantly surprised. *Street Fighter 2*: Amiga is as close to the arcade version as a 68000 with a single fire button is going to get.

In case you didn't already know, *SF2* places you in the middle of the hottest street competition ever. The best fighters from around the globe have been gathered to battle it out in a series of man-to-man style rucks against the clock to find out who exactly is the 'ardest geezer on the face of the planet. Eight persons (six male, one female and one thing) from locations as diverse as Japan and Brazil come together to fight it out, and all of them make the WWF wrestlers look like a bunch of ballet enthusiasts. Single player, you have to work your way through them all to take the title. Not that you can just walk in and take the title, of course. Once you have defeated the seven basic opponents, you have to fight the four big bosses. That is where things get really hard, if they weren't hard enough already. Alternatively, you could just stand to one side and let them all give you a kicking. Defeat the four bosses, and you've beaten the game, or have you?

Two player, the action really heats up. Needless to say, this is a very violent game, and there can be little as entertaining as knocking seven bells out of your friend/brother/sister/whoever. If you think that selecting different characters creates a disadvantage, then you'll be happy to know that the Character vs Character mode from the Championship Edition has been added, (but accessed via a cheat mode) so you can both be Blanka





Let battle commence! Note the obligatory 'Eye Balling' pose, where you stare at your opponent for a while before one of you gets the bottle to make the first move.

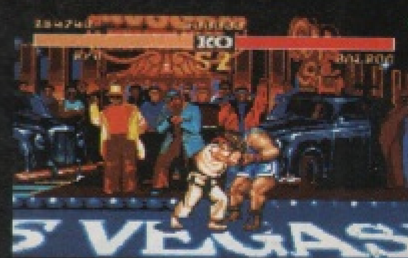












Chun Li summons up one of her special moves, and shows exactly what her high heels are capable of!

GHTER 2

and spend many an hour rolling at each other.

BONUS BASHING

Don't worry, though. It's not all mindless fighting. There are a few bonus stages to fight your way through, too! These occur quite late on in the game (after the 7th fight, after the first boss and just before the last boss) and are based on the arcade version rather than the SNES. Your first challenge is to wreck a car in the shortest time possible. You're up against a time limit, and if you manage to turn a once-fine family saloon into a pile of melting slag, you'll get yourself a handy bonus! To demolish it, you simply have to punch and kick the various parts (headlamps, bonnet, engine, windscreen, doors, etc.) until it collapses in on itself and the police drag you away for vandalism.

Next comes the bouncing barrels. You stand at the bottom of the screen while someone throws beer barrels from somewhere above the screen. The barrels fall onto a small platform above you. After that, they could fall in any direction – you can't tell. All you need to do is smash as many of them into pieces as quickly as possible. The problem here is that the barrels are actually filled with Mexican Jumping beans, so everytime the barrels bounce, they could bounce either way, just like the balls in *IK+* could change height. Should you be hit by a barrel, that's the end of this particular bonus stage.

Finally, you are confronted with three piles of oil barrels which, yes you guessed it, you have to smash to smithereens. However, every time you hit a barrel it sends out a lick of flame, which incinerates you on the spot, so you have to move fast. Well, I didn't say it wasn't all mindless violence, did I?

To be honest, I kept away from the arcade machine for quite a while. I don't like hype, so I thought the only way to judge it fairly would be to play it once the hype had died down. Sticking in my coins, I assumed it was going to be 'just another beat'em'up'. How wrong I was. If you haven't played it, and let's be honest, who hasn't played it at least once, then you won't know that this game has more to it than the 'repeatedly stab at the fire button while thrashing the joystick about and hope you get a hit on them first' variety, where your only advantage is the speed of your index finger. *SF2* involves the careful planning of moves, as well as the reactions to use them at the right moment. Going in headlong isn't going to win any battles, so save that for the pub.

SIX FINGERED FIGHTERS

Unfortunately, the original arcade version has six fire buttons. Three for punches and three for kicks. That, plus the fact that secret com-

A1200?

Many Amiga-owners are already pawning the family silver to get their hands on a new A1200. However, how many will experience that old sinking feeling when they find that their games collection won't work? *Street Fighter 2* is fully A1200 compatible, you'll be happy to know, but at the moment there are no firm plans to release an A1200 specific version. It might happen, we're told, but not until the middle of next year. Is it worth waiting for sumptuous 256-colour backdrops and the enhanced speed, we ask ourselves?

THE FIGHTERS

Eight computer opponents might not seem like much in these days of digital armageddon, but nowhere will you find a bunch of nuts as hard to crack as these. Here's the full run down of who you'll be taking on.

EDMOND HONDA

We've all seen Sumo wrestlers. Great girly blobs of lard that don't seem to do anything more daring than lean on people. Not Eddie. He's the meanest Sumo of them all, and knows how to use his 304 pound frame to his ultimate advantage. Favourite tactics include squashing, leaning on, and trapping in small places before grinding into the dirt.

Through some tortuous mental exercises, Edmond is able to channel the full impact of his body through the top of his head, so a Sumo head butt is something to be avoided – along with his amazing hundred hand slap.



GUILE



Guile is hacked off. After a routine Special Forces mission in Thailand, he was captured, tortured and kept prisoner for longer than he could care for. Now he's back and is determined to take his share of any action that's going.

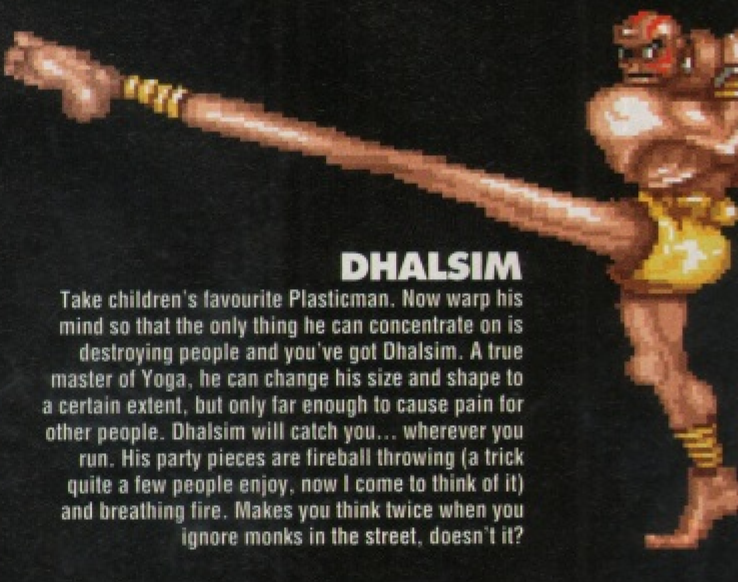
Guile's special moves include a lethal Sonic Boom, created by swinging his arms at Mach 2. If that doesn't grab you enough, then how about an energy barrier created by some seriously fast kicking or a back breaking body-drop throw if you get too close?

RYU



Ryu was once a simple farm boy. Now he's a simple killing machine. He was trained from a very early age by Master Sheng Long. Dedication is one thing, but this guy has been more than happy enough to drop everything else in his life for the sake of combat. A fierce fighter, he hides a couple of mean moves up his sleeves, including fireballs and a sizzling hurricane kick, which sees him spinning at extremely high speed in the air. Three of these and your on your back. If that isn't enough, then how about the viscious Dragon Punch. Ryu practiced for years until he mastered this diving punch.

DHALSIM



Take children's favourite Plasticman. Now warp his mind so that the only thing he can concentrate on is destroying people and you've got Dhalsim. A true master of Yoga, he can change his size and shape to a certain extent, but only far enough to cause pain for other people. Dhalsim will catch you... wherever you run. His party pieces are fireball throwing (a trick quite a few people enjoy, now I come to think of it) and breathing fire. Makes you think twice when you ignore monks in the street, doesn't it?

binations of these, along with timed movements of the joystick, brought up special moves such as fireballs or an electric field made the Amiga version a tad different. Programmer Tony Bickley had to give some serious thought as to how to translate the controls to a single button joystick, or even twin button joypads, such as a SEGA controller. At one point, Tony even considered bundling a special six-button joystick with the game, but found the costs involved too prohibitive. What he came up with instead is a game with standard beat 'em up controls, but which still gives the tactical feel of the original game. By thinking logically, USG have managed to come up with a way of using all 32 moves from a standard eight-way joystick and this is how it works:

While standing, without the fire button pressed, you have eight moves open to you, such as walking, jumping and crouching. Pressing fire then allows you to select from the first set of attacking move (four kicks, four punches). If you crouch, you can select another eight attacking moves, as you can while in the air. 8 plus 8, plus 8, plus 8 makes 32!

On a two-button joypad, things get even easier. The eight way controller moves your character around in much the same way, only now one fire button controls the kicks and the other controls the punches. The big difference here is that now there are two versions of each kick and punch. Pushing the way the character is facing makes them attack with their leading limb, whereas pushing in the opposite direction makes them use their trailing limb. Easy, innit?

KARATE CHOP

Of course, you can't take a game as memory-hungry as *SF2* and fit it into an Amiga without some chopping, and the first thing to go were some of the special moves. In the arcade, each character had up to five secret moves. On the Amiga, each has only two. Thankfully, they are all documented in the manual, so you needn't spend half your life trying every combination you can think of.

As far as presentation goes, the game is almost flawless. Perhaps lacking some of the speed of the original in places, all in all, the game is as close as you could come. The sprites are massive, it must be said, and the pleasing thing about this game is, unlike other titles with similar sized sprites (*Sword Of Sodan*, for example), the animation is as fluid as you could want. Each character has an unbelievable 225 frames of animation! The sprites alone take up around 5Mb of memory! And that on top of the glorious 32-colour backdrops makes for a fairly stunning looking game. It doesn't look exactly like the arcade machine, though, but that's just because the Amiga can't generate the same sort of screen luminescance that arcade cabinets and consoles can.

A great deal of attention has been paid to the sound too. Not



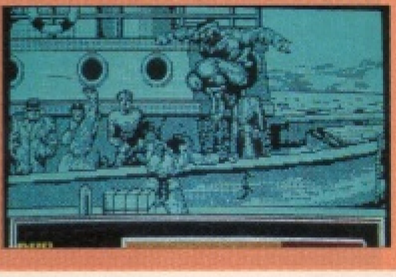
He may be a hardened marine with a mission, but that doesn't frighten Eddie Honda. One shove and he's down.

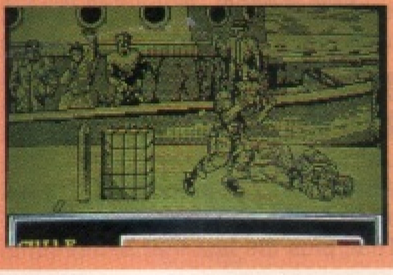


Nothing like a good kick in the teeth to even out the odds. Especially when your legs are as stretchy as Dhalsim.

SPECTRUM VERSION

For those of you old enough to remember the Spectrum, or indeed to have actually owned one, will be pleased to know that the Speccy version of *Street Fighter 2* is also looking rather good, given the limitations of the machine. Why are we mentioning this? Well, when we saw it up and running we all got a bit misty eyed and just had to tell you about it. Yes, we know, we're sad old fa*ts when it comes down to it!





CHUN LI

The only woman in the contest, and a woman with a mission, at that. Chun Li is here to track down a secret organisation called Shadoloo, and if she has to kick a few butts on the way, well that's just dandy with her. A rather sexist touch this, but she apparently – and I take no responsibility for writing this – uses her looks to charm her opponents who, while underestimating her strength, are flattened in no time at all. High kicks aren't her only speciality either.

Lightning Kicks are as fast as their name suggests, and if you think you can take any more, then how about a couple of Whirlwind Kicks, where Chun Li spins like a top. From which point she'll attack is anybody's guess.



ZANGIEF

Zangief, the Russian with the mostest, loves his mum and his country. Applaudable attributes, wouldn't you say? The problem is, he hates everything else, and loves to use his wrestling skills as often as possible. If you've ever wanted to be spun dry, or would like to knock nails in with your head, then this is the guy to help you achieve your goal.

His favourite moves include the Spinning Clothesline, useful for avoiding fireballs and causing heavy amounts of damage to opponents, and the Spinning Pile Driver, only instead of using you as a jack hammer, he uses you as a giant drill bit. Ouch!



BLANKA

6 foot five inches of pure muscle and hair, this is one beast that'll never get the beauty! Born in Brazil, he has spent most of his life terrorising villagere by leaping at them from the jungle. Only recently did he step forward to challenge anyone who was asking for a fight.

After spending a large part of his life studying electric eels, Blanka can charge 1000 volts through his skin without blinking. While his opponent is reeling in shock he strikes back with his second special move, a rolling attack that forms part of a lethal game of bowling.



KEN

Ken's superhuman strength and athletic abilities are matched only by his ego, which is odd considering he has a name that ranks with Kevin and Barry in the hardness stakes.

As a former disciple of Sheng Long Ken can create Fireballs with minimum fuss, and can manage the odd Dragon Punch and Hurricane Kick. The only real difference is that Ken could have Ryu. Anytime. With both hands behind his back. Go on. Outside. Now.



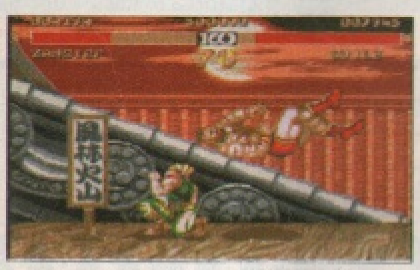
surprising, really, if you think of the difference between hitting someone and hearing a slight pop and hitting someone and hearing a car door slammed. Just look at the Rocky films to see what I mean. Creative Materials obviously think that the arcade versions had just the right effects, as they've sampled all the sounds for the Amiga.

The game is fast. Perhaps not as speedy as the SNES, but then again your basic Amiga isn't built with the same graphic chipset as a SNES. It does, however, run a lot faster than the rolling demo on the cover of last month's issue, so don't be too put off.

But, after all this, the proof of the pudding is in the playing, and playing *Street Fighter 2* is immensely enjoyable, right from the word go. I have to admit, I was surprised, especially when you consider that Creative Materials were the team responsible for *Final Fight* which received a paltry 60%. The thought that has gone into the control really pays off when you pick the joystick up for the first time and find you can lay a pretty formidable offensive line, if not exactly the most tactical or defensive. *Street Fighter 2* is very playable, and genuinely does stand head and shoulders above any of its rivals. Naturally it'll take some time before you'll be able to use all the moves to their fullest advantage, but that's part of the fun.



A masterful throw by Ken, who will no doubt gloat about it in seedy bars later. By the way, don't try this move at home!



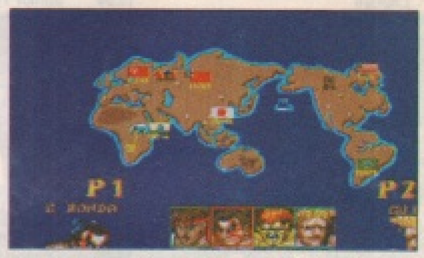
Let's face it, it can't be easy lifting and throwing something that large, but Guile manages it. Give the man a round of applause!.

AH SO!

If your SNES-owning friends have been driving you insane with jealousy, now's the time to strike back. OK, it isn't arcade perfect and the SNES version is. On the bottom line, though, it's a perfect example of what an Amiga beat 'em up should be, and an excellent conversion at that. Without a doubt the best beat 'em up to ever grace the Amiga, even better than the fabled *IK+*. Whether it will hold that position for long is uncertain, as rumours currently floating claim that an *IK+ 2* is on the way, although the same rumour states that Archer Maclean may not be involved. For now though, *Street Fighter 2* is the thumper to have. Plus the fact that it's half the cost of the console version, you can't really go wrong. Well done, US Gold.

ARCADE VERSIONS

With the possible exception of *Space Invaders* and *Breakout*, never has there been so many variants of the same machine in the arcades of the world. At last count there are no less than 13 different *Street Fighter 2* games knocking about the place, including Street Fighter 2 Championship and Street Fighter 2 – 92 Rules, in which you can pit two players against each other with the same character. Also, due to hacking, there are eight different SNES versions floating around, some of which allow you to jump that little bit higher, or let you do two dragon punches for the price of one.



Here the two players chose which bodies they're going to try to keep alive. The map at the top shows where the next battle will take place.

buyers guide

release date	Out Now
genre:	Beat'em up
team:	Creative Materials
controls:	Joystick, Joypad, Keys
numbers of disks:	4
number of players:	2
hard disk installable:	No
memory:	1 meg

US Gold £27.99

'The best beat 'em up on the Amiga – ever!'

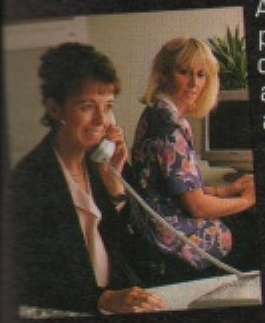
GRAPHICS	91%
SOUND	86%
LASTABILITY	82%
PLAYABILITY	87%

OVERALL 90%

PHOENIX

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Welcome to our three page Christmas-Special which has all the products you need to make this a "Happy Amiga Christmas!"

Page one is devoted to 'Options', packs which are designed to take the headache out of your choice this Christmas. All year we have been gathering regular feedback from our customers on what they think are the essential items to be found in a pack. From this information we have assembled what we and the Amiga buying public believe to be the ultimate in packs at unquestionably the best prices.

Make 'Options' your only option this Christmas!



James Millard
Managing Director

OPTION 1
ARCADE ACTION PACK

This Pack, built around the A600 1Mb machine, will provide you with everything you need to create your own in house' all-action arcade environment. Exploit the Amiga as the ultimate games machine!!!





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- ZOOL Software Pack (10 High Quality Games inc. ZOOL, striker)
- 8mm Mouse Mat

OPTION 2
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This pack is based round the A600 HD giving you all the advantages of an electronic office environ-ment in the comfort of your own home. Alongside the A600 HD, Phoenix also provide you with a top selling 9 PIN dot matrix colour printer, a highly rated software package - rated 84% in Amiga Format - our own Phoenix Deluxe drive, and a full range of top quality accessories, making day to day household management easy!!



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- 3.5" External Drive
- PA 601 RAM Expansion
- Europress "Mini Office"
- 10 TDK 3.5" Disks
- A4 Copy Holder
- Anti-Glare screen
- 500 sheets of Paper
- 8m Mouse Mat

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- Star LC100 9 PIN Colour Printer
- PA 601 1 Mb RAM Expansion
- Fun School 3+4 Monkey Island 2
- 50 Capacity Disk Box
- 10 Phoenix Bulk Disks with Labels
- Joystick (fully microswitched)
- 8mm Mouse Mat

OPTION 4
CHRISTMAS CRACKER

"Unbelievable", "Crazy", are just some of the quotes from the industry regarding the demise of the A500+.



Destined never to be sold again the A500+ was superceded by the A600 range. However, Phoenix have secured one of the largest stocks in the UK of the Cartoon Classics Pack and offer you the very last chance to purchase this legendary machine!!

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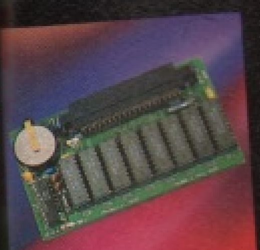
If you wish to upgrade any major item of hardware in the 'Option Pack', simply tell us at the time of ordering and we will just charge you the difference in price between the two products. Easy!

SPECIAL CHRISTMAS OPENING TIMES
Mon-Sat 9.00-7.30

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In this month's pre-christmas "TRAIL BLAZERS," we focus on some of the best products and peripherals currently on release for the Amiga.

PHOENIX 1Mb A600 UPGRADE



Simply the Best !

...£44.99

ROCTEC ROCLITE

This famous super slim drive has now been upgraded to include Anti-click and virus checker - We have reluctantly had to raise the price of this product due to the variance of the dollar rate. However to soften the blow we will include a FREE disk head cleaner worth £3.99

Phoenix price..........£64.99

FINAL COPY-UK VERSION

This powerful, unique WYSIWYG word processing package is the best value choice for your Amiga, sharing many of the features of full-blown DTP packages

Phoenix price.........£69.99

Be safe in the knowledge that you are buying the official UK version of the product from Phoenix. BEWARE of dealers offering "Latest version" of Final Copy. This may be American product and should not be sold in the UK!

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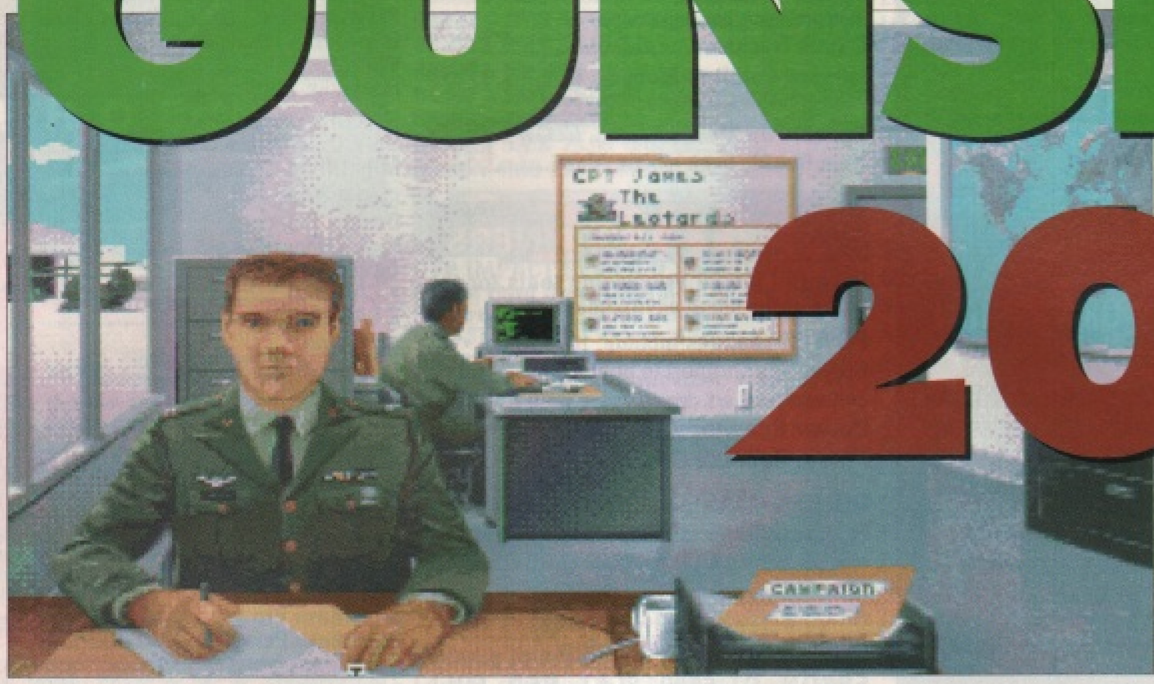
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GUNSHIP 2000



Brigade Headquarters: home to the brass hats, and where you get your orders.

Keeping death off the roads and putting it back in the skies, where it's so much more fun, is Microprose's formidable flight sim. Steve Prizeman, of the CU Air Cavalry, took it into the wild blue yonder.

TAKE OFF

What does 'torque' mean to you? How about 'collective cyclic'? 'Blade stall and air compressibility'? If your response is 'Eh?', the chances are you're not familiar with the principles of helicopter flight. Don't worry, in *Gunship 2000* the basics can soon be grasped, and even a novice at 'copter flight sims can get his whirlybird airborne.

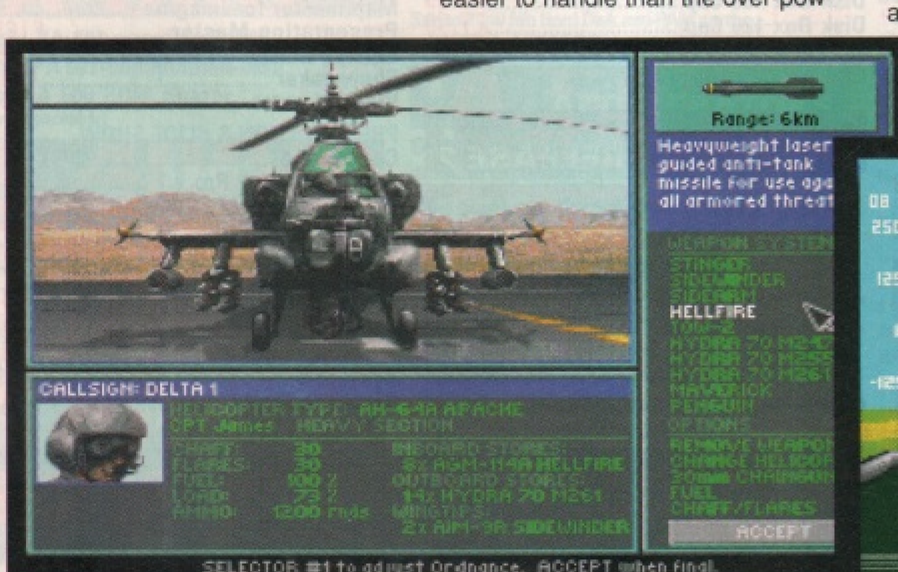
The ease is not because Microprose have skimped on realism, on the contrary the game diligently endeavours to recreate the feel of helicopter flight. Recognising that many users of the game will be more familiar with fixed-wing flight sims, the hefty manual provided includes a 30-page section on the theory and practice of flying rotary-wing aircraft. Don't be deterred by the catchy opening line ('Flying a helicopter is a lesson in the physics of vectors…'), the copters prove easier to handle than the over-powered jets featured in most flight sims.

If you don't want to fly by the seat of your pants, handling all that the elements, and the physics of vectors, can throw at you, *Gunship 2000* allows you to switch on certain in-game helps. For instance, obstacles on the terrain (hills!) may be automatically avoided, wind can be switched off, clear visibility can be guaranteed, and the altitude of the copter can be separated from pitch, roll, and airspeed. If you like delegating, there is an autopilot, and control of the copter's weapon systems and counter-measures (chaff and flares) may be passed to the computer which takes the role of your co-pilot/gunner. Even the quality of the enemy forces you'll be up against is adjustable, ranging from poor to elite.

BAIL OUT

But what do you do in the game? A variety of missions, set either in Central Europe or the Persian Gulf, are available. As you might expect, most propel you into combat: Point Attack (go to a set target and kill it) or Search & Destroy (roam around, find something, *then* kill it), etc. What distinguishes *Gunship 2000* from most flight sims is that this is a multi-copter game. Once the player's character has risen through the ranks from Warrant Officer Candidate to Second Lieutenant ('That's loo-tenant to you, boy!') a whole five-helicopter flight may be brought under his command. More sophisticated operations then become available: Reconnaissance, Tactical Support (transporting troops, supplies, and wounded), Deep Strike, and Search & Rescue. The flight may even be split into two units and sent to different targets.

In recognition of the number of units in a flight, and the variety of tasks required of them, seven different helicopters may be used. In addition to the AH-64A Apache Gunships which gave the game (and its predecessor) its name, Longbow Apaches, SuperCobras, Comanches, Kiowas, Blackhawks and Defenders are also available. Their weaponry, ranging from chain-guns to laser-guided and radar-homing missiles, ensures that



Wings of the Apache! Your favourite gunship, tooled-up and ready for the off.

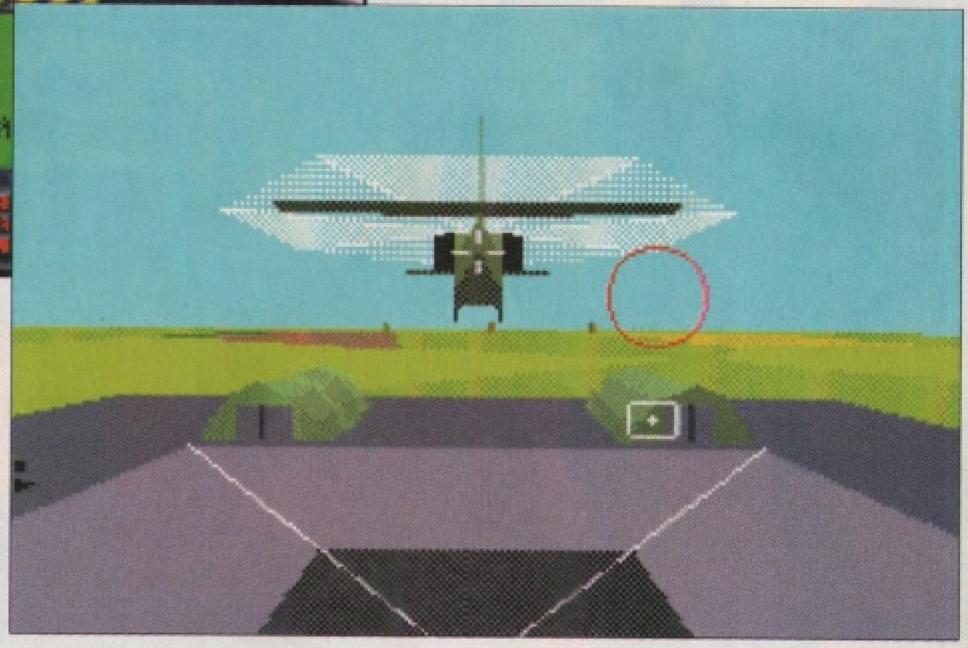


Longbow Apaches, Kiowa Warriors, and Defenders have mast-mounted cameras giving an early warning of enemies over the horizon, before they even know you're coming. Naughty, but nice!



Up, up, and away! The gunship takes to the air. Anyone crossing its path will wish they hadn't tangled with it, 'cause it's in a meee-aannnn mood!

Rugged terrain, like river valleys and hills, has to be negitiated whilst flying through Central Europe. Missions in the Persian Gulf don't have such problems – they just have lots of mean enemies looking for suckers like you!



you'll not only be flying some of the fastest, most agile machines around, you'll also have the deadliest.

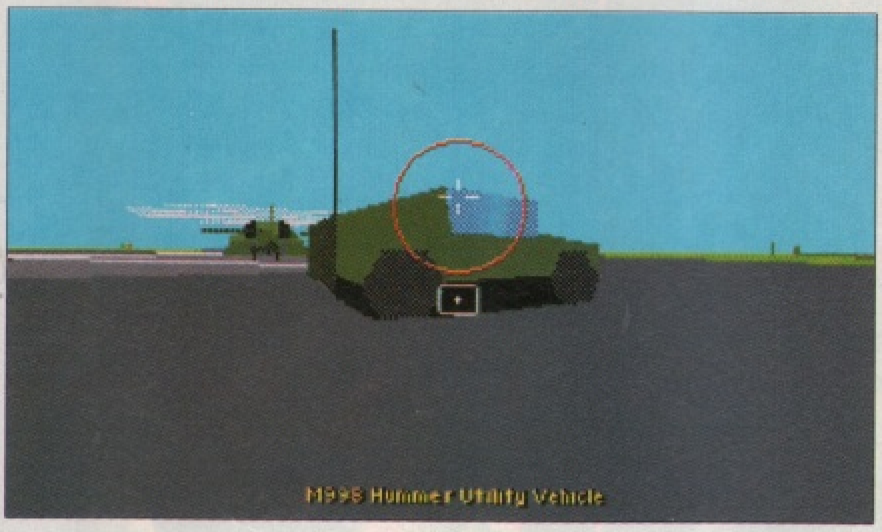
CRASH LAND

In the geopolitical world of *Gunship 2000* the (former) Soviet Union constitutes the probable source of opposition for Central European missions, showing perhaps that Cold War or no Cold War the ex-Soviets are doomed to be the bad guys in strategy games for years to come. They may have to queue for rationed cabbage, but they're certainly no push-over in the skies: watch out for Hind-E and Havoc gunships, not to mention the new Hokum, purpose-built for anti-helicopter combat. In the Persian Gulf, no prizes for guessing that the Iraqis are the main threat, so there is plenty of opportunity to play Saddam-busters.

Multi-copter missions are not compulsory, however, so if you prefer to go it alone, single helicopter missions (and training exercises), may still be selected. Your ultimate objective (if the thrill of flying isn't enough) is to reach the rank of Brigadier General by your 99th mission. If you don't get such a distinction you can still have a respected retirement as an instructor, passing-on your skills to the young bloods who will follow you. Intrepid pilots may even pick up Purple Hearts and the Congressional Medal of Honour for their efforts.

Graphically, *Gunship 2000* shares one common feature with most flight sims: however good the intentions behind it, the landscape just doesn't look very realistic. The degree of detail can be changed, but still never convinces. But, like I said, this seems to be par for the course with flight sims, and *Gunship* shouldn't be penalised on that count. More important is the way the movement of the copter relates to the simulated ground beneath it – and that is conveyed well. External views may be taken, from behind the copter, following the flight of a missile, or looking (anxiously) from the position of the target you're firing at. The inter-flight screens are well drawn, and often partly animated. It's nice to know a sense of humour has been included also – click on the VDU in Brigade Headquarters a few times and see what is occupying the officer's attention.

Gunship 2000 is, in short, a thorough game which will test your tactical combat skills as well as your flying ability.



A wide range of military vehicles may be encountered on the battlefield. Make sure you can distinguish between the enemy and friendly forces, like this Hummer utility vehicle.

buyers guide	
release date	Out Now
genre:	Flight-Sim
team:	In-House
controls:	K, J&K, M&K
numbers of disks:	4
number of players:	1
hard disk installable:	Yes
memory:	1Mb

MICROPROSE £34.99

“Challenging and exhaustive resp-resentation of copter combat.”

GRAPHICS	82%
SOUND	79%
LASTABILITY	85%
PLAYABILITY	81%

OVERALL 83%

GETTING HISTORICAL

Do you know who we have to thank for the helicopter – Leonardo da Vinci! Not content with painting the Mona Lisa and inventing every other machine in history, da Vinci designed a rotary-wing aircraft in the late 15th century. Working models were produced, but the real thing never got off the ground – just as well, if the Borgias or the Medici had got their hands on helicopter gunships we'd all be speaking Italian today!

Ponton D'Amecourt, a Frenchman, invented a steam-powered helicopter in 1862. Although it never flew, it shuddered sufficiently to show that the basic idea was sound enough to work if the problem of finding an adequate power supply to lift such a craft could be overcome. In 1907, following the Wright brothers' initiation of fixed-wing manned flight, and the invention of the internal combustion engine, Paul Cornu (also French) invented the first working helicopter. He did not fly far, or high, but what was important was that flew!

In 1936, the Focke-Achgelis Fa61, designed by Dr Heinrich Karl Johann Focke, took flight as the first helicopter suitable for practical uses. Being in Nazi Germany, however, the practical applications of the helicopter were predictably turned in a military direction soon afterwards. Flying for the first time in 1940, Anton Flettner's F1 282 Kolibri, is recognised as the first military helicopter. From 1942 it was being launched from German warships, and later versions were employed in counter-measures against submarines.

Also in 1942, in America, Igor Sikorsky's XR-4 went into service with the US Army. Employed for scouting, delivery, and anti-submarine uses, this type of helicopter became the first to conduct a search and rescue mission – going behind Japanese lines in Burma in 1944 to rescue crew and passengers from a downed aircraft. By the end of the Second World War, over 400 Sikorskys, of various designs, were being used by British and American forces.


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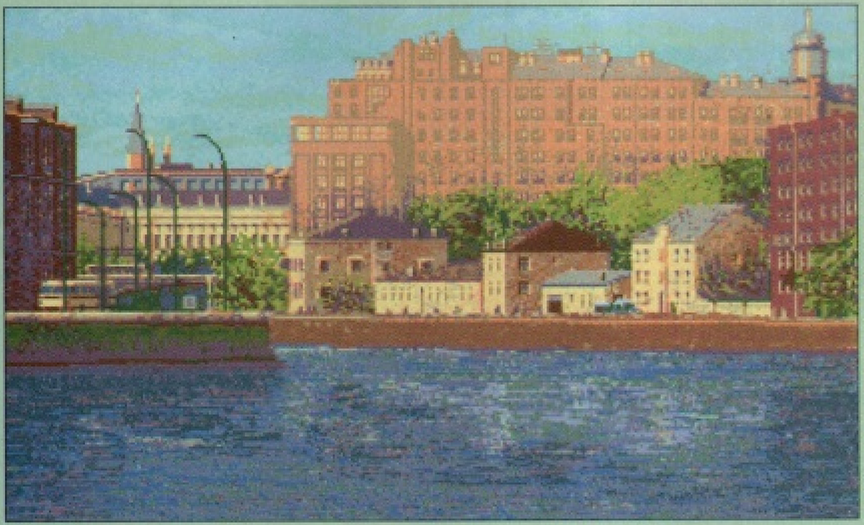
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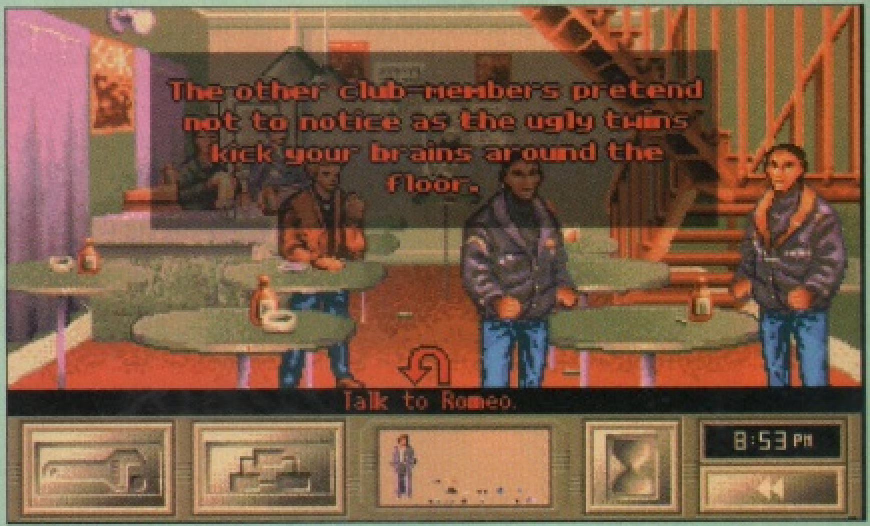


This is your boss, Volvov. Always pay attention to his orders and try to follow them to the letter, especially regarding the deadlines he gives you. He's not a man who likes to wait around.

KG

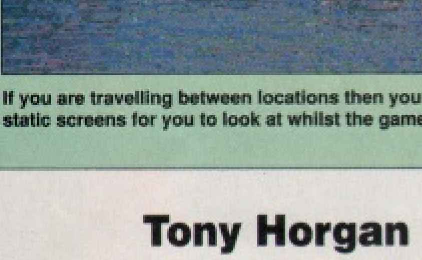


If you are travelling between locations then you will be treated to a variety of these digitised static screens for you to look at whilst the game accesses the disk.



The many end of game screens are not exactly graphically gruesome, but the text descriptions leave little to the imagination.

Tony Horgan sticks on his Cossack hat and journeys into the seedy world of the Russian Secret Police.



The inventory can hold an almost infinite amount of objects and from this screen you can look at them more closely or manipulate several items with each other.

PSYCHO PITBULL

If there's one thing more frightening than being locked in a cupboard with a disturbed pitbull terrier, it's the reputation of the KGB. The now defunct Russian Secret Police were so sneaky in their methods that no-one even knew what the letters KGB actually stood for, let alone their methods or what they got up to. Since the fall of Communist rule and the subsequent democratic changes that Russia has witnessed, information about them has become much more accessible. Virgin obviously feel that it is now safe to release a game based around the exploits of the not-exactly-pleasant Soviet sods and hence here's the arrival of Cryo's new graphical adventure.

In the game, you play Captain Maksim Mikhailovich Rukov, a newly appointed member of a sub-division of the KGB, entitled Department P. A private investigator has been murdered and you are in charge of the investigation. Whilst the death of a P.I. may not seem particularly important, it soon transpires that this dead detective used to work for the Secret Police and your boss, Volvov, wants to make sure that there are no state security implications involved. The investigation soon evolves from a simple murder inquiry to the discovery of a vast, sprawling plot which threatens the position of the then-President Gorbachev himself, but I won't spoil it by going into details.

HUGE ADVENTURE

The adventure itself is huge to say the least, and it's going to take even the most hardened players a good deal of exploring before the main part of the investigation is even touched upon. There are plenty of people to meet and interrogate and much of the puzzle aspect of *KGB* is derived from discovering the right line of questioning you need to adopt. One false word to anybody can often result in the sudden end of your career or life, but rather than prove frustrating, as is the case with some adventures, the handy addition of a 'backtracking' option means that you can often retrace your steps and try other combinations of questions which will, hopefully, result in a successful outcome. The game is quite time sensitive as well, so it is extremely important to be in the right place at the right time.

You would be forgiven for thinking that the hard-edged world of the KGB might make for a seemingly depressing game, but you could not be further from the truth. Right from the start, when flicking through the manual, you can see that this is one game which will not be upping the national suicide figures. 'Beware of letting your disks fall into the wrong hands! Capitalist agents are everywhere, and any unlawful copying or distribution of these disks will result in the ultimate failure of our mission! You have been warned,' it proclaims, wisely. There's plenty of laughs to be found in the game as well, mainly adult Russian-type gags, but laughs nonetheless. In your bedroom, for example, you encounter a likely looking mirror and clicking on it reveals a list of options, one of which is to 'place yourself under visual observation' which, when selected, provokes the response 'good idea – report anything suspicious'. In another instance, Rukov stumbles into an office only to find that a certain gentleman is in extremely 'close consultation' with his rapidly blushing secretary, if you know what I mean. It's not often that a game actually provokes laughter with some consistency (I can only think of Monkey Island 1 & 2 offhand) and so it is refreshing to find a game which continually hits the giggle button with unnerving accuracy.

WHAT PROBLEM?

A major problem that some first person perspective adventures often have is the player interface. In *Ween*, for example, there was far too much selecting from a menu bar at the top of

GB



There are a few toilets to be found in various locations and if you attempt to use them you'll be treated to this typical example of the game's, ahem, 'toilet' humour.



There are many hostile places in *KGB*. You'll need to be particlularly clever if you are to visit this club without ending your career prematurely.



Whilst chatting to people, the game often cuts to these close-ups, revealing a character more fully. This is Uncle Vanya, a disabled gent who often grumbles when you attempt to converse.

the screen, something which is never user-friendly. In contrast *KGB* positively overflows with ease of use and the interface it employs is a joy to work with. For the bulk of the game the 'smart pointer' is in use, which changes as you move it around the screen. If you place the pointer over a locked desk, for example, it will change to 'look'. If you want to move through a door then simply point at the door and the icon will change to 'go'. If you are not happy with the option the smart pointer offers you, then pressing the right mouse button will reveal a list of alternatives. The smartest feature, though, is the way that the 'look' pointer flashes when passed over an interesting object in the current location. This ensures that you don't have to search everything in any given place. The save game option wreaks of user-friendliness as it automatically inputs a filename along with a score rating.

Conversations are conducted via a series of pop-up menus, which build in complexity throughout the adventure – the more you learn, the more you can talk about. These menus always appear roughly in the middle of the screen so, once again, there's no unnecessary cursor movement, a feature that will please adventurers who possess a dodgy mouse (like me).

SCRAPPY MUSIC

If there's one thing that lets the game down slightly, it's the music. It's a funky track which, although sounding very pleasant, actually feels out of place in Communist Russia. I can't imagine how the musicians arrived at the finished piece – do they think that the Soviets are constantly dancing?

Overall, though, *KGB* is one of the finest graphical adventures available to Amiga owners. Its ease of use and humour elevate it from being just 'very good' to 'flipping excellent' and it must surely rank as a must buy for all serious gamers.

KNOW WHO YOU'RE DEALING WITH

Newcomers to the violent world of the KGB could be forgiven for not agreeing with many of the organisation's methods. They are not renowned for being easy to deal with and always expect 100 percent co-operation and success. Anything less and they might well introduce you to the KGB Book of Torture – something which is enough to persuade even super-tough psychos to tow the party line.

The first thing they are likely to try is sending a couple of hard-nuts round to your home with nothing more than a couple of fists to give slackers a proper 'going over', perhaps stopping only after a few ribs have been broken. Whilst this may be enough to put off the majority of people, sometimes even tougher measures are called for, like the introduction of rubber hoses, for example. Rather than coming round to water a garden, the hoses serve as whips to inflict visible damage to the skin, leaving a clear reminder of what can happen if anybody messes with them. After this you are in Extreme Pain City, because their methods become even more (more!!?) terrifying. How would you like to be bashed around with a sack filled with iron or your nether regions burnt with hot plates? (Put your hands down Frank Bough.)

If it's information they are after, and the pain tactic isn't working, they will almost certainly resort to drugging a suspect using a variety of illegal substances. These doses are increased until facts are gleaned, and if the suspect isn't exactly forthcoming with the goods then the dose can become so large that it can sometimes prove fatal. Someone who knows too much may well find themselves missing a tongue before too long, as the KGB don't often trust anybody outside the nucleus of the organisation to keep their mouth shut.

With this new knowledge you can hopefully see things under a different light and have a little more success in the world of the KGB.

buyers guide

release date	Early January
genre:	Adventure
team:	Cryo
controls:	Mouse
numbers of disks:	5
number of players:	One
hard disk installable:	No
memory:	1Mb

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" An essential buy for all Amiga adventurers "

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SOUND	83%
LASTABILITY	91%
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OVERALL 90%

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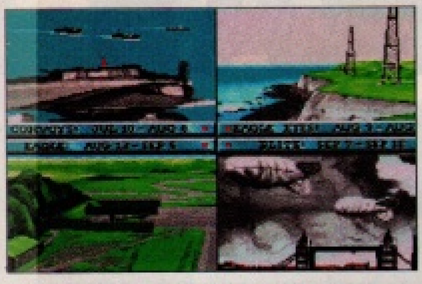
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The four possible starting points. Choose whether to face the whole scenario, or just join in at the end.

Have Virgin Games really managed to capture the comradeship of World War 2? Tony 'Goggles' Dillon cries chocks away...

REACH FOR THE SKIES

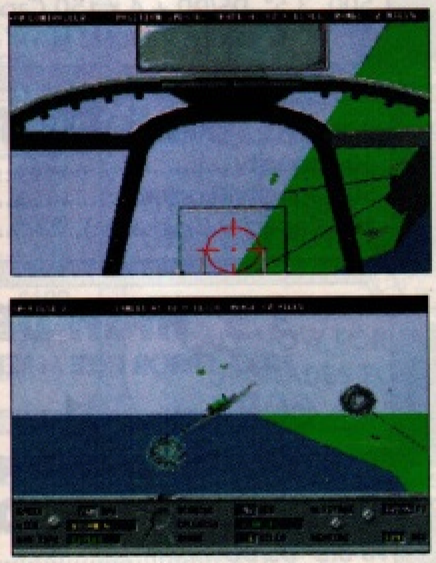


Banking to meet the German attack. They may look close, but they're probably a lot closer than you think.

(AIR)BORN CYNIC

My first thoughts, whenever loading a combat simulation of this type, are always cynical. With the exception of Microprose's *Knights Of The Sky*, I can't think of any flight simulators that have successfully created the feelings of playing as part of a team in the middle of combat. This is no exception.

In *Reach* you are posted on the south-east coast of England at the start of the Battle of Britain, and have to work your way through the entire campaign. Starting off with defending supply ships against enemy attacks, it works to a frenzied battle as we enter the blitz. At the start of the game, you choose who you want to fight for, either the RAF or the Luftwaffe. As part of the jolly old Royal Air Force, you'll spend most of your time taking out German aircraft, whereas should you join the Hun, you'll do all sorts of strikes, both air and ground based. Once the side is selected you have to choose between being a pilot or a controller. The only real difference between these two is that a controller gets to do things between missions and a pilot will hop from mission to mission, joining in whenever needed, and generally soak up a lot of short-term glory. A controller is the person who makes all the big battle decisions, such as what sort of defensive moves should be made, and by how many pilots, in which sort of planes and from where. In this game, you have the option of planning the strategy first as a controller and then actually switching to become a pilot to fly in the battle.



Two of the more useful views. Top: the rear view mirror actually works, giving you an all-round view.

BREAKFAST

As a pilot, once you've selected the first mission you're given a list of which strikes are happening that day, and can select the one that most appeals. *Reach's* programmers have provided the player with two control options – simple or easy. In simple mode, the four joystick directions bank and tilt your plane in the usual way, and the fire button or substitute fires your only weapon, a short range machine gun. Plus and minus keys control throttle and the number keys allow external views. A basic control panel gives equally basic information, and a text bar at the top of the screen displays radio information. Regular digital flyers will feel right at home, although the lack of any radar is a bit disconcerting.

If you want to make things a little easier, there are two automatic systems which can be switched on. Firstly, there's the autogun. Once activated, should an enemy plane stray across your gunsights, the computer will open fire. The other system is an autopilot, which is used to get you to predesignated points without all the fuss and bother of navigation. There is another use for these two systems, but I can't understand why it is included. Pressing return brings up 'combat view' which is an external view of your plane with the nearest enemy craft centred on screen. Pressing 'L' locks that plane as the main target. By switching on both automatic tools now, the computer will follow the selected plane and open fire on it – dogfighting on your behalf. As dogfighting is the main poinnt of the game, this does seem to destroy the point of playing at all.

Things improve when you play as a controller. Between missions, you are shown a map containing all your airbases, and all the enemy activity. This allows you to choose how to fight back. By using a very simple point'n'click system, Virgin have managed to move this away from the tabletop game it is, to a more enjoyable break between flying. Not exactly taxing, but it is nice to see the differences between decisions, and how they shape the outcome of battle.

FOLLOW MY LEADER

The polygon graphics are quite astounding. The planes look realistic, and by using bit-mapped graphics for explosions, it's very satisfying to blow an enemy plane out of the sky. But when things start moving, the graphics lose credibility. For a start, distance between yourself and other craft is impossible to judge, as a Spitfire changes in size from being a single pixel in the centre of your view window to fill it in a matter of a second or two. The biggest problem with the graphics, however, has to be the judder. Either I'm mistaken and aircraft in WW2 could travel at speeds exceeding Mach 2, or there's some serious miscalculation somewhere. The most irritating thing about this game is the way that enemy planes can disappear as you watch them!

Reach For The Skies could have been amazing. There are so many good ideas in the design that it seems such a shame to waste them by making the game unplayable.

PLAYING BY EAR When it comes to drumming up excitement in a game like this, nothing is more effective than lots of well thought out sound effects. *Reach For The Skies*, while for the most part sounds like any other airplane sim, does have its moments. For example, sampled speech is used when radio messages come in. Although there are only a few messages, they do add to the atmosphere slightly. For example, when Blue Two yells 'Some trade for you', you know that trouble's coming!

buyers guide

release date	Out now
genre:	Flight simulation
team:	Rowan Software
controls:	K,J,M
numbers of disks:	3
number of players:	1
hard disk installable:	Yes
memory:	1Mb

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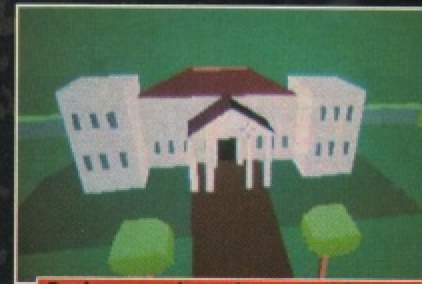
"Excellent ideas poorly implemented. A waste."

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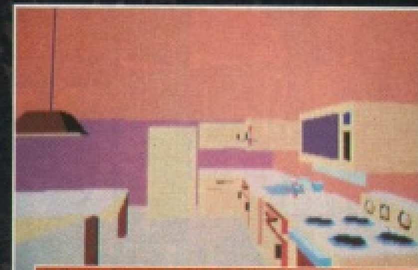


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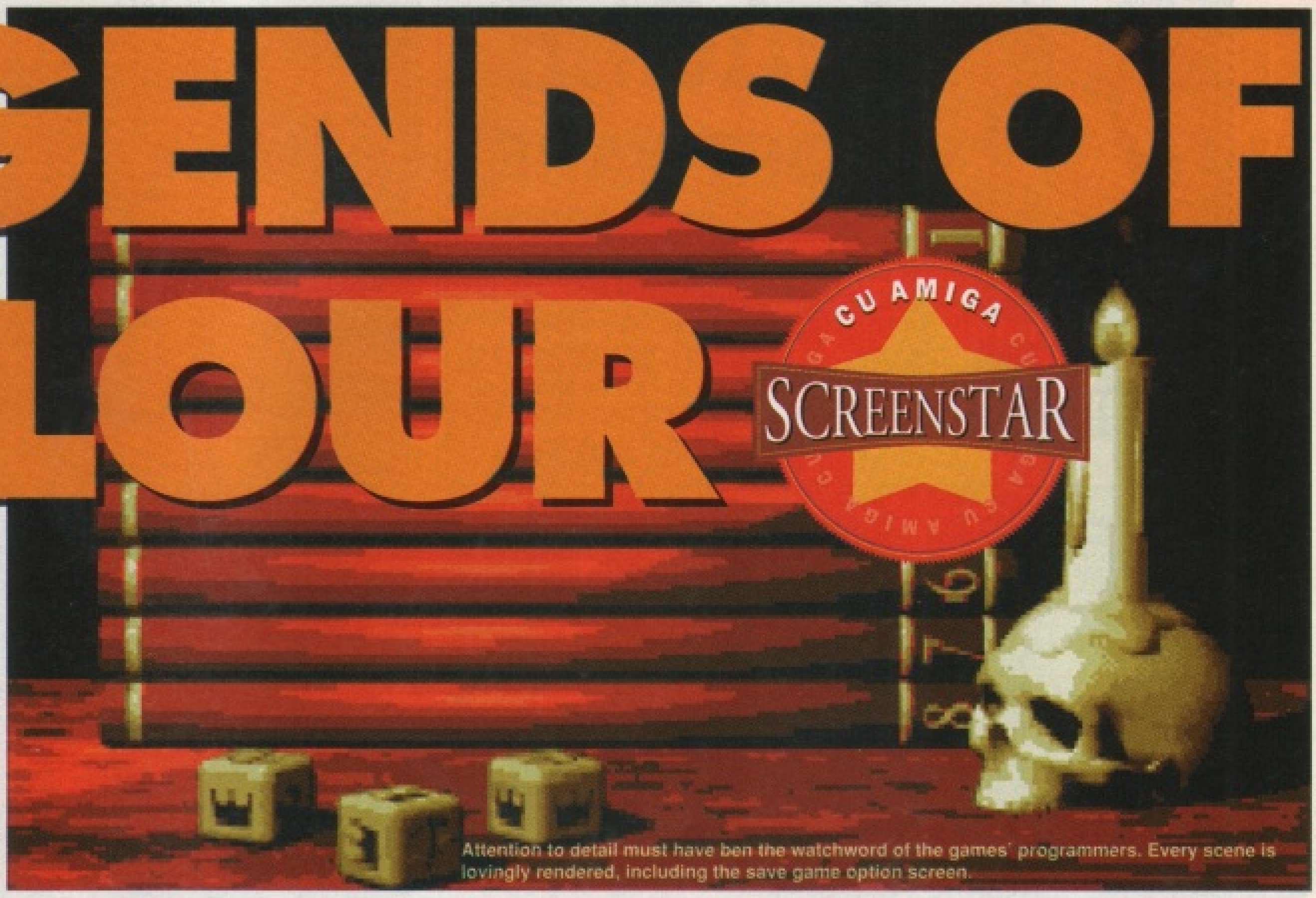
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LEGENDS OF VALOUR



Attention to detail must have ben the watchword of the games' programmers. Every scene is lovingly rendered, including the save game option screen.

A role playing game that's good enough to be a simulation? Tony Dillon is intrigued...

OLD HAT

Polygon games are becoming old hat. As more and more vector based simulations fly from our screens, Amiga owners are becoming desensitised to the idea. Even Ocean's *Epic* or Braben's *Elite II* aren't causing quite the stir they would have 18 months ago. Basically, people are getting bored with huge multi-coloured mathematical shapes. This is something that also started to happen in the PC market, and led to one of the most impressive pieces of Public Domain ever seen – *Escape From Colditz* is a speedy 3D adventure that has you racing around a floor in a German prison, I can't recall anyone not sitting back in awe the first time they saw it. The reason? A breakthrough in coding – texture mapped polygons.

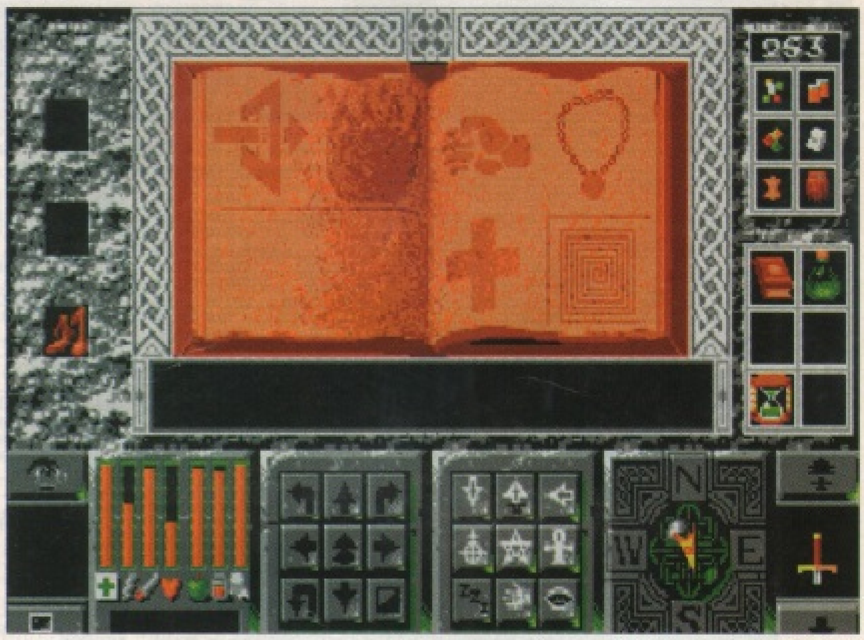
Just in case you aren't entirely sure what texture mapping is, on its base level it's taking a design and pasting it onto a polygon. As the polygon is manipulated, so the design is mapped onto it, so if you were to shrink the object, its surface detail would shrink accordingly. Origin soon caught onto this and came out with *Ultima Underworld*, a *Dungeon Master*-style romp for the PC. Many Amiga owners have been green with envy since then. Well, now's the time to return to your normal colour. *Legends Of Valour* from Synthetic Dimension (whose role call includes Kevin *'Corporation'* Bulmer and Paul *'Mercenary'* Woakes) is arguably one of the most impressive pieces of coding since the Amiga began. But before the high praise, a recap on the story so far.

CASTING COUCH

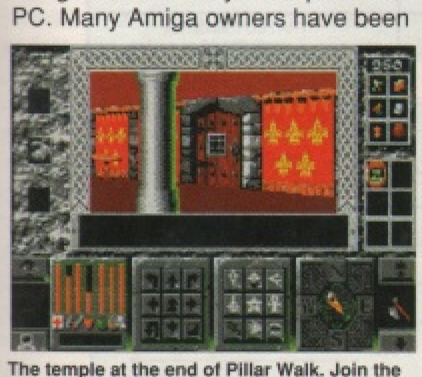
Your part in this adventure begins at the gates of the city of Mittledorf, where you have come to track down your cousin Sven. From that point, things start to get a little complicated. The King has been overthrown by his cousin and the town is in a spot of trouble. The sort of spot an Oxyacetylene torch couldn't remove, let alone Oxy 10. The manuals give little information about what you have to do – well, nothing too obvious anyway, so you have to work your way through this huge township, find out what the quest is, and then complete it.

Ah, but if only life were that simple. Along the way you'll need to join guilds and rise through the ranks by performing small but complex tasks in order to attain full status in every profession before you can even contemplate the full quest. This game is massive in every respect, so let's take it a step at a time.

The first thing to do before you can partake in any of the game's action is to work out exactly who you are. This is done at your home village via the character generator. Here you can select whether to be male or female, as well as human or elven. After that there are the usual choices to make, such as which weaponry and armour to buy, and then the less standard option of face building. By interchanging eyes, noses, mouths and hair styles, you can build up the face of your adventurer. Believe it or not, this does



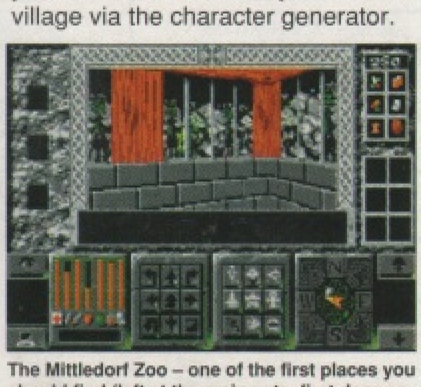
As you work your way through the game, one of the things you are bound to become proficient in is magic. Here you see a complete spell book. You'll start with the arrow in the corner.



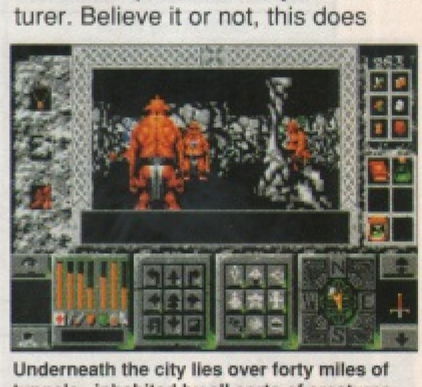
The temple at the end of Pillar Walk. Join the Guild here, and you recieve some rather nice perks, such as free healing.



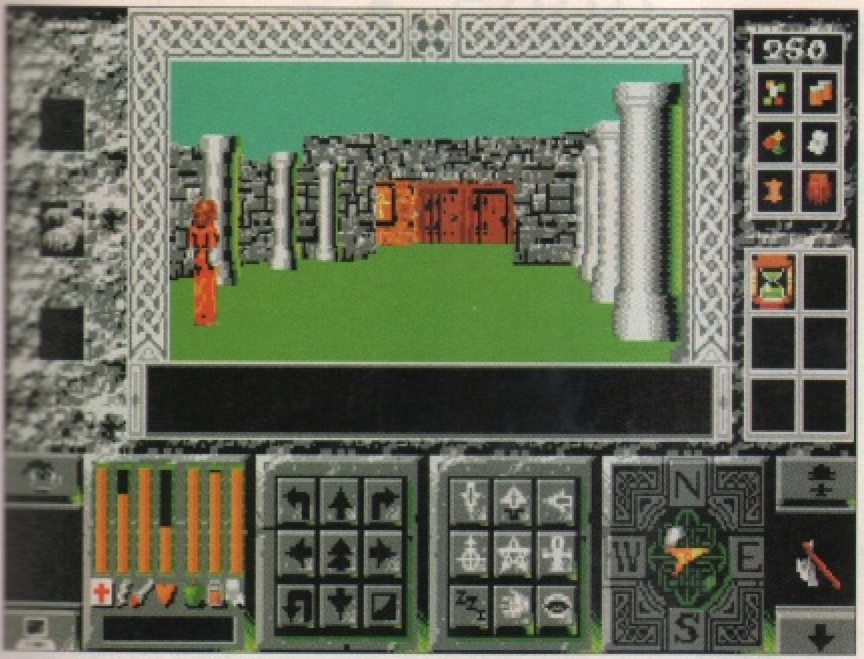
If it's a room you're after, or just looking for a bite to eat, then you can't go far wrong with one of the local taverns.



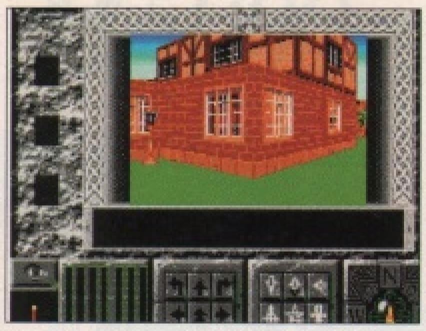
The Mittledorf Zoo – one of the first places you should find (left at the main gate, first door on the left). Watch out for the Crimson Troll!



Underneath the city lies over forty miles of tunnels , inhabited by all sorts of creatures, just like London Underground.



Pillar Walk, one of the more memorable locations in the city. Using landmarks like this, along with the accompanying map, is the only way to find your way around one and a half square miles.



One of the most unusual things about this game are the transparant windows.



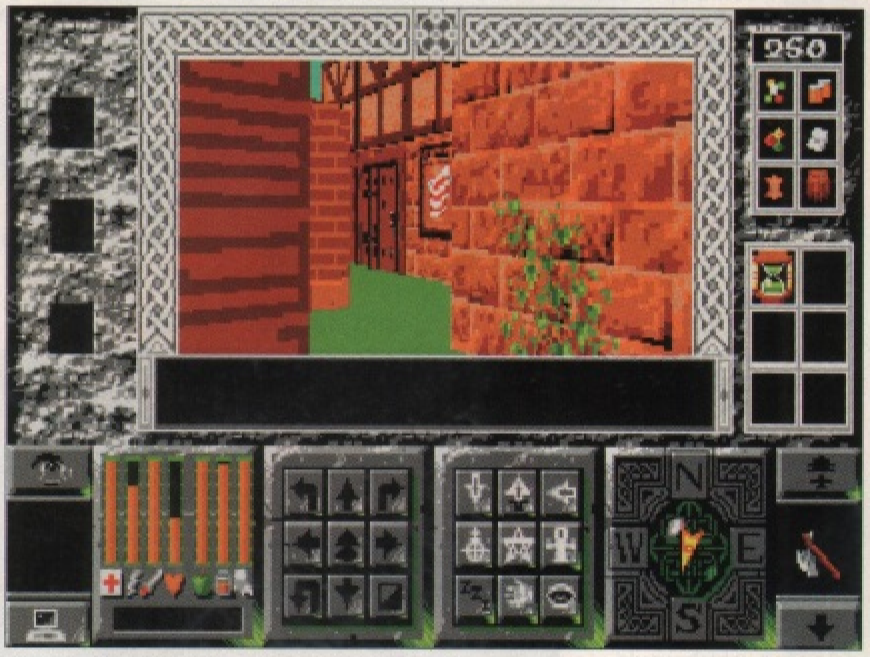
Some of the design is reminiscent of a rather spacious tudor town.



Aaileeeh! I'm under attack from a horrible werewolf. If I get bitten, I can be arrested!



On the inside looking out. Buildings are great places to hide when the police are after you.



Just check out that brickwork. Good old Mittledorf masonry that, you won't find stonework like that in any of these foreign towns, or any other game, for that matter.

make a difference in the game.

That done, you step into the game and sit quivering for a bit. If you loaded the demo on November's coverdisk you'll already know how amazing the graphics are. If you haven't, go away and load it now, and come back to me when you've done so. Now you can see what I mean when I say texture mapped polygons. Running on a bog-standard A500/500+/600, the game is impressive to say the least. Stick it on a faster machine and the game becomes more realistic than Virtual Reality. Walking around the city you can't help but be amazed as cladded walls and buildings scroll past you smoothly, and even change colour depending on the time of day. They said it couldn't be done. How wrong they were.

CONTROLS

The viewing window is quite small, only taking up about a sixth of the screen. This might seem off putting at first, but after a couple of minutes of play you stop noticing. As for the rest of the screen, the bottom half is taken up with an array of icons and readouts. The icons are divided roughly into three sections, with the movement bank taking up the middle of the screen, the compass on the far right and a bunch of action icons between the two. Action icons include simple things like 'talk', which brings up a menu of categories such as 'Where is' and 'What is', and 'spell casting', which opens the pages of your spell book and shows the spells you currently have to hand.

Now, on to the serious business of playing the game. It can't be mentioned enough times, so here goes again – the game is enormous. The city itself measures a mile and a half by a mile across and is built on three levels (ground floor, first floor, dungeons). The dungeons themselves are composed of around 40 miles of tunnels and passageways, making just the dungeons far bigger than the combined maps of *Eye of the Beholder 1* and *2*. There are literally thousands of characters to interact with, too, though the program only really keeps track of the 256 closest to your current location. These people all go about their daily business and might even attack you for no other reason than the fact that they don't like you. This is where the face construction comes in. When you have built your character, you are given an appeal factor dependant on what you look like. As the character develops and becomes more important, the appeal factor rises, so people won't attack or provoke you so often. Who said looks don't count for much?

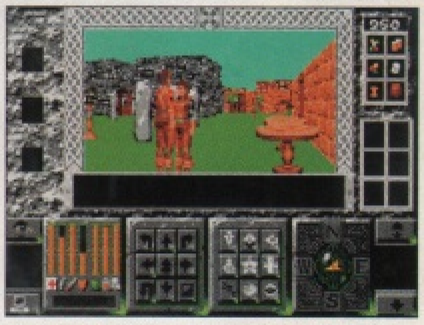
I won't beat around the bush – *Legends Of Valour* has knocked me out. This game is one that'll keep me playing to the end. At the moment I'm considering moving Christmas to sometime around the end of April just so it doesn't get in the way of this game. If you don't own a copy, then get one. Otherwise, get rid of your Amiga. You obviously don't want to put it to good use.

A1200, HERE WE COME

Although there are no firm plans laid there is a distinct possibility of an A1200 version in the near future. Making full use of the machine's speed, along with its 256 on-screen colour capability, the new version will be far more like the PC title, with textured floors and ceilings, shadows and true day/night cycles. We wait with baited breath and itching mouse fingers.

TAKING CONTROL

A game that lets you roam around in full 3D shouldn't be stifled with icon control – that's the message that comes from this game. If you're a purist, you'll have no trouble at all getting to grips with the *Dungeon Master*-style group of arrows. If you fancy a little more freedom, then clicking the right mouse button hands everything over to mouse control. Using left and right, you can spin around on the spot, and the left button makes you run forward. This system feels far more natural, and lets you get on with the business of running randomly around the city without all the fuss of carefully moving the mouse to the right icon.



Exploring every nook and cranny is an absolute necessity. Even if only to take a look at the beautiful locations.

buyers guide

release date	Out Now
genre:	RPG
team:	Synthetic Dimensions
controls:	mouse
numbers of disks:	3
number of players:	1
hard disk installable:	yes
memory:	1Mb

U.S. Gold £25.99

“An excellent adventure game. A must buy.”

GRAPHICS	90%
SOUND	86%
LASTABILITY	90%
PLAYABILITY	88%

OVERALL 88%



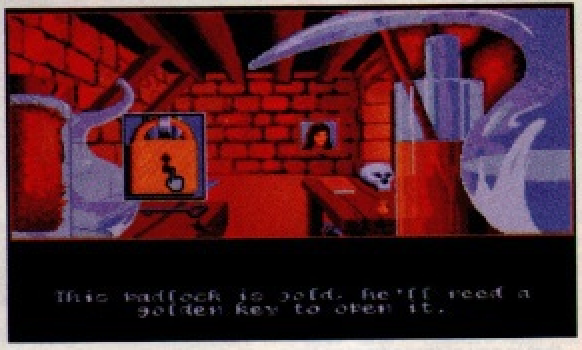
WEEN

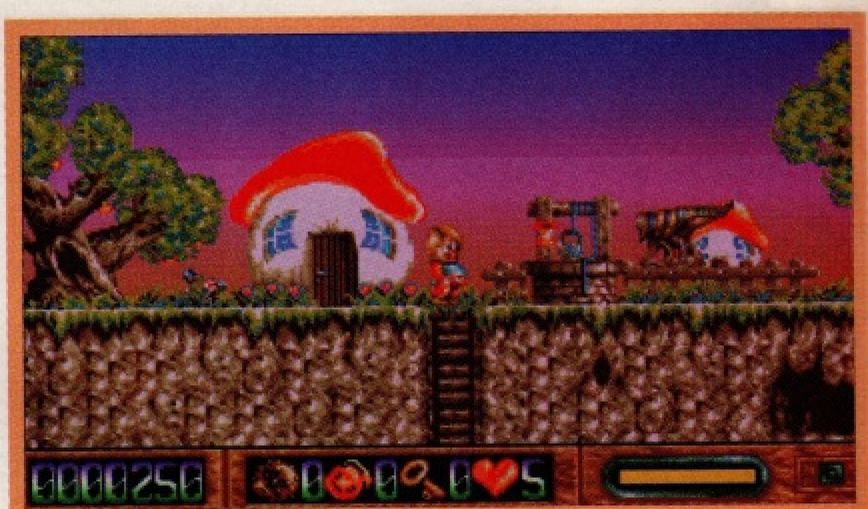
They do come up with some funny old games, those French cousins of ours. Take *Ween* for example. It's another of those strange graphic adventures, where nothing seems to follow any particular pattern, and you never quite know if they've forgotten to include half of the instruction manual, or if they meant to leave you completely in the dark.

Ween's plot is the usual kind of thing, knocked up on the Adventure Game Plot Construction Kit. You know, silly names, tales of mystical lands and unfulfilled prophecies. It boils down to a straight quest for, wait for it, three grains of sand! I can tell that's got you all excited, but simmer down, the best is yet to come. It's played with a rather scrappy-looking point'n'click interface, which would have been okay a few years ago, but comes nowhere near the standards of the Lucasfilm and Delphine adventures. Unlike those classics, *Ween* fails to convince you that you're in another world. Instead it just feels more like an interactive slideshow.

Puzzle-wise, it's completely illogical. Rather than being hard but fair, the solutions to the problems are just plain stupid. Once you realise that logic was a word missing from the designers' vocabulary, you end up just pushing, pulling and using everything you can lay your hands on in the hope that you'll hit the right combination of irrelevant moves. You do get a bit of help from Kevin the fruitbat, but in exchange for clues, you have to give him pieces of fruit, which are hard to come by. If you're bored of logical adventure games where everything makes sense, *Ween* is the one for you. **Tony Horgan.**

Coktel Vision £25.99 **52%**





NICKY BOOM

Fancy playing a game that 'will overhaul you with its humour and animation'? Apparently that's what *Nicky Boom*, from French coders Microids, will do for you. Playing Nicky, the character from the title, you have to try and rescue your grandfather from the clutches of an evil witch who has kidnapped him and turned all the peaceful forest creatures into carnivorous freaks after your blood.

You can see from the screenshots that it's a platform game. It's also a very basic platform game, and one that seems extremely dated when placed alongside titles like *Zool* and *Robocod*. All the standard inclusions are there, such as smart bombs and hidden rooms, but that's it. Microids don't seem to have added anything in order to make the game stand out, so it doesn't. It's quite fun to play for a while, and the controls are tight enough to make it enjoyable at times, but there is so much better around. **Tony Dillon.**



Microids £25.99 **65%**



CYTRON

Take the old classic *Paradroid*. Throw in a few touches of *Gauntlet*. Shrink the graphics a bit. Remove a fair chunk of playability. Give it a snazzy intro. Now what do you have? – *Cytron* from Psygnosis, another title that proves that fancy presentation doesn't make for a great game.

On loading, you are given a quick piece of Psygnosis graphical brilliance, as a ray-traced robot – a mini-tank – rolls along a corridor, spots a couple of flying patrol drones and blasts them out of the sky. It looks like this could be something special. Then you load the game itself, and realise that once again your hopes are to be dashed. *Cytron* casts you as a solo combat droid, out to save the lives of hundreds of scientists trapped in a research laboratory where the other robots have gone slightly mad and are attacking everything in sight. Yes, it's exactly the same as Mindscape's *D-Generation*, only not as polished.

Cytron is a well designed little fellow. Not only can he stand tall as an all-round battle machine, he can also split into two more specialised characters. Cyt and Ron are called into action on levels where multiple actions need to be performed in sequence, such as switches switched and doors opened, so the two can be sent their separate ways to co-ordinate actions and save the humans.

It all scrolls around quickly, responds instantly and generally is quite playable. The real problem is that it isn't very inspiring. The small graphics have little or no character to them, and after 10 minutes of tedious blasting I was beginning to get very bored with it indeed. A simple idea, but one that has been done so many times that it just isn't worth playing. **Tony Dillon.**

Psygnosis £25.99 **52%**

BUNNY BRICKS



What do you get if you cross a rabbit, a baseball bat, a gorilla, and 5000 house bricks? *Bunny Bricks*, of course, the new wacked-out release from Silmarils.

I'd like to fill you in on the whole plot, but it's so far-out that you'd think I was off my trolley. The brief version is that you play a rabbit called Bunny, who has to rescue his girl from the clutches of an ape, by taking a baseball bat and knocking his way through 30 screens of bricks. Figured it out yet? Yup, it's another *Breakout* clone.

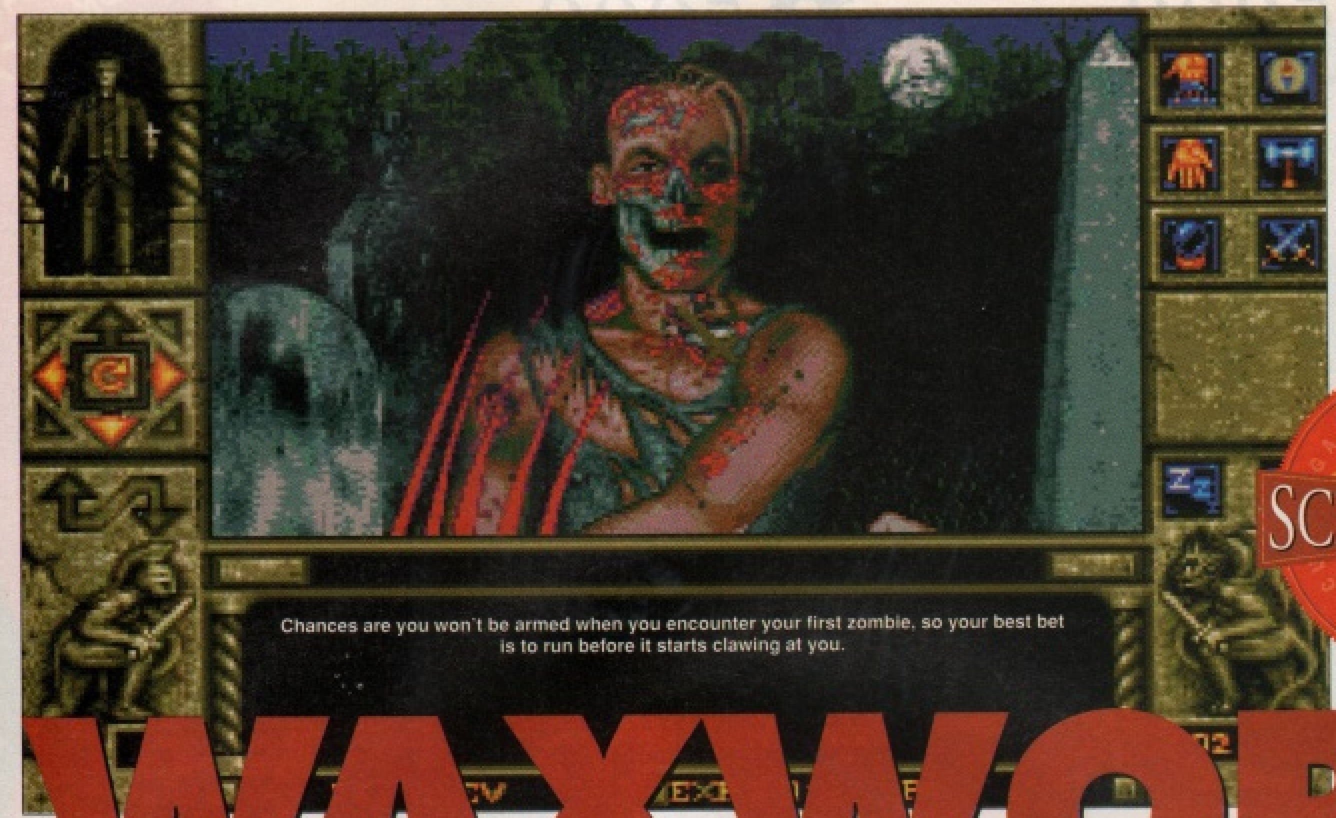
Yeah, I know – been there, seen it, done it, etc. But *Bunny Bricks* does have a few twists on the old theme. Instead of just having to line up under the ball, this time you've got to give it a crack with the baseball bat. It's hardly revolutionary, but it gives the impression of having greater control (even though in reality you've got less control than in most brick-bashers). All the usual features are here, like indestructible bricks and bonus tokens. Some of the screens have a slight puzzle element too, which usually involves hitting switches in a certain order to gain access to other parts of the screen.

Bunny Bricks is a lot better looking than most *Breakout* games, thanks to plenty of colourful cartoon backdrops. Unfortunately, whoever laid out the controls, must have been on the same trip as the bloke who dreamed up the storyline. They're far from instinctive, but you get used to them after a while. There's nothing much to shout about on the sound front, but it's all made that bit more satisfying with a good sampled 'crack' as you hit the ball.

However, addictive and humorous as it is, disposable fun like this really belongs in the budget price bracket. **Tony Horgan.**

SILMARILS £25.99 **42%**





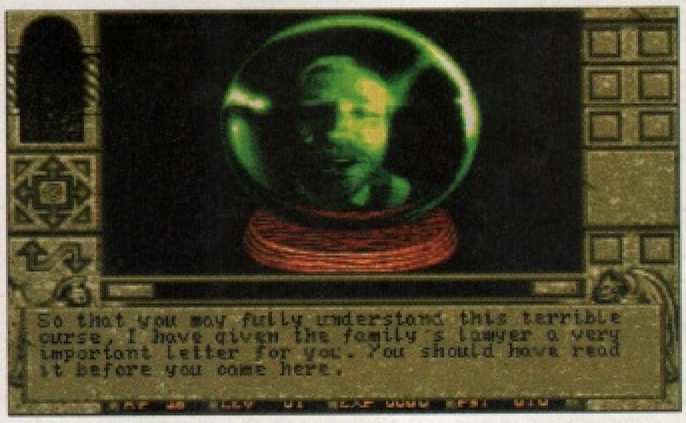
Chances are you won't be armed when you encounter your first zombie, so your best bet is to run before it starts clawing at you.

Our very own House of Horrors star, Mark Patterson, puts quill to parchment once more.

WAXWORKS



This ghoul is your guide through your uncle's museum. He doesn't say much, and disappears shortly after meeting you.



Your uncle is on hand to offer pearls of wisdom. It pays to consult him every time you enter a new location.



Enter this display to be transported back to ancient Egypt. This time you're after an ancestor's twin sister who's a right nasty bit of work.

I'M MELTING

Following the success of the *Elvira* games, Horrorsoft return from the pits of eternal damnation (or wherever they spend their hols) to feed gaming blood-lust with their unique brand of computer horror.

Like *Elvira 1* and *2*, *Waxworks* takes the form an RPG. Although this time Horrorsoft have concocted a plot which lets them make the best cliches whilst including a few lesser known horror formats.

The game starts with your character receiving a message informing him that he wasn't, contrary to what his mother told him, an only child. It turns out that he has a long-lost twin brother who's intent on bringing Satan into the world, and could you see your way to sorting him out. It goes on to say that due to a curse, or bizarre genetic make-up, twins have been common in your family, and throughout time one has wandered off to commit every day acts of despicable evil, while the good one attempts to stop them.

Your uncle is the person responsible for this letter, which also contains an invite to his house. On arriving you find your host has turned up his toes some days before, and that he employs a servant more suited to the Hammer movies' costume room. What he failed to mention in his letter was that he has built a wax-work museum in his house, with the exhibits depicting gruesome scenes from history, such as Jack the Ripper going about his business.

SPIRIT GUIDE

Fortunately, your uncle wasn't one for taking things like death on the chin, and his spirit returns to explain exactly how you're supposed to rectify your ancestors' wrongs. Each diorama is actually a gateway through space and time, rather than a piece of sicko art, so that you can actually travel to the locations depicted.

In front of each scene is a plaque which tells you exactly what happened, with the story culminating with a mysterious stranger arriving in the nick of time to save the day. All you have to do to sort things out is step into a scene, instantly becoming the mysterious stranger, then track down and slaughter your homicidal relative.

To begin with only ancient Egypt, Jack the Ripper's London, an old mine-shaft and a spooky graveyard are open to you. These can be entered in any order, as any objects you collect within are lost when you exit. When these are completed other scenes open up, culminating in a show down between you and your own nefarious twin.

Each stage has its own set of graphics, tricks, traps and creatures. While the objective in each is to find and kill someone, the puzzles vary greatly. Although I only got about a third of the way into the game, I never found it repetitive, which is exactly what I had expected it to be.

CHARACTER CONTROL

The control system, as is common nowadays, is entirely point'n'click. To examine an item you simply double click on it, and to pick it up you drag it onto the inventory window. The only problem with this system is that it's very easy to overlook an important item, so it's essential to click on everything in the area. While this system works well for the most part, it can be fiddly if you need to change weapons, or per-



The graveyard is the most horrific of the early levels. There you face zombies who are really hard to kill, mainly because hacking their heads off has no effect.



Grab the knife to defend yourself. The lamp also comes in handy later on. When searching a room always turn side on, as there are always objects to the sides.



You first task in London is to avoid the police, who reckon you're Jack the Ripper. There's no time for anything, so leg it as soon as you enter.



One of the less gruesome baddies that you may meet. However, don't be lulled into a false sense of security by this guy, as he certainly means business. Despatch him as soon as possible.



When you take a peek at some corpses you'll be treated to a fairly gory close-up of the poor victim. Best not to hang around dead bodies for too long, though, or you may be taken for the killer.



If the bobbies catch up with you your last few minutes of life will contain a lot of twitching and foaming at the mouth as you dangle from the end of a hang man's rope.

form a similar act, in a hurry, which leads to some very untimely demises.

Combat is very simple. When you've chosen your weapon you simply click on which bit of your foe you want to strike at. Depending on when you click, your character will either lunge or swipe. If you're facing a human-shaped creature, it doesn't matter too much, but when it comes to your everyday creatures from the darkside, you have to be very selective about which tentacle you're aiming for. The status of your enemy is shown graphically by the amount of wounds on their body. What's really neat is that the corpse is added to the game map, so you can use your victims as markers to help you find your way around.

You're not without help in your quest. Your character has a number of psyche points which can be spent summoning his uncle's spirit. When it appears you're given a list of questions to ask him, all of which are relevant to that scene and your current situation. I found this feature particularly useful, as it provides further background to your current quest as well as the odd life-saving tip.

WATCH OUT MARY WHITEHOUSE

With a name like Horrorsoft, you wouldn't expect this company to produce games with, say, fluffy lambs tripping across fields. No, if these guys were to feature anything four-legged and furry it would either have fangs and an insatiable bloodlust or they'd have someone setting a flamethrower on it. This brand of 'creative' imagination has lead to the inclusion of some rather colourful (i.e. red) graphics. For instance, examining the corpse of Jack the Ripper's latest victim and you get a pic of a young lady, with a large slit where her throat should be. Shortly after, if you don't make the right moves, the good old bobbies catch you and you're then treated to a close-up pic of your character hanging neck-first from 12 feet of rope.

Naturally this sort of thing isn't everyone's cup of tea, so if you're offended by the sight of maidens being shut in coffins and zombies stripping the flesh from twitching corpses, you'd be advised to stick to something that lets you drive cars or stomp on aliens with a fast-moving rodent.

DIGITISED GRAPHICS

The graphics are superb. Much of the time is spent looking at repetitive scenery, but when you come to a key location you're treated to some very smart graphics. The graphics artist must have received a video camera for his birthday, as their are a few bits of digitised animation, along with static digitised pics, to which he's added a variety of throat and facial wounds, along with generous amounts of blood. The music is a little clumsy at times, but there's a different piece for each level which compensates slightly.

Waxworks is set over a whopping 10 disks, which to my mind makes it one of the largest games on the Amiga. While this could lead to all sorts of disk swapping malarkey, it appears that each individual scene has a disk of its own. While there is a certain amount of accessing when you enter a key location, the overall amount isn't much. If you've got a hard drive, tough, most of the above problems disappear.

More than the technical excellence, what makes this game really special is the plot. I can't remember having played such an imaginative and involving game. Each one of the subplots is good enough to stand up as a game in its own right. Whether it's nineteenth century London or wandering around a third dynasty pyramid at Saqqara, the atmosphere is fantastic. It's really good to see a game which doesn't rely on hordes of orcs and trolls to provide RPG entertainment. This goes down as one of my top three games of the year, and one of my all-time favourite game concepts. If you can handle the horror, you can't afford to miss this.

buyers guide

release date	Out now
genre:	RPG
team:	Horrorsoft
controls:	Mouse
numbers of disks:	10
number of players:	1
hard disk installable:	Yes
memory:	1Mb

ACCOLADE £34.99

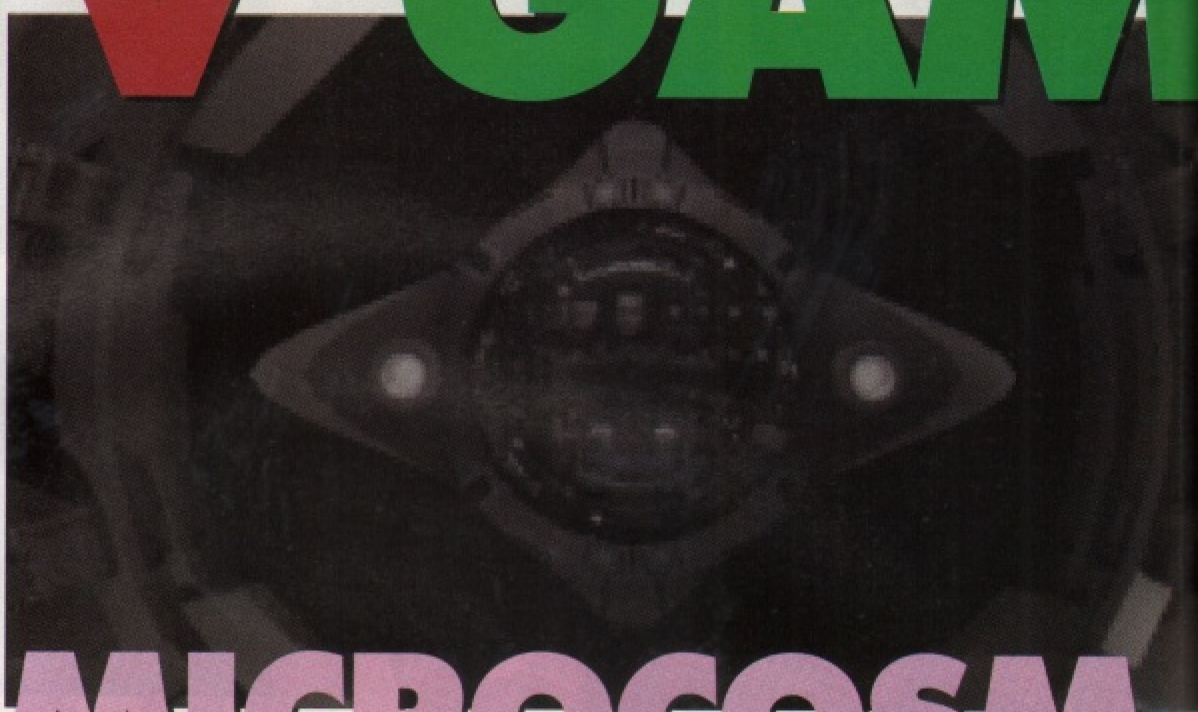
“One of the best RPGs I have seen in a long time.”

GRAPHICS	89%
SOUND	80%
LASTABILITY	92%
PLAYABILITY	90%

OVERALL 91%

CDTV GAM

Is CD-ROM really destined to a life of running audio-visual encyclopedias? Tony Horgan takes a look at the first of two games that Psygnosis hope will change the face of CD gaming forever.



MICROCOSM

NEW ANGLES

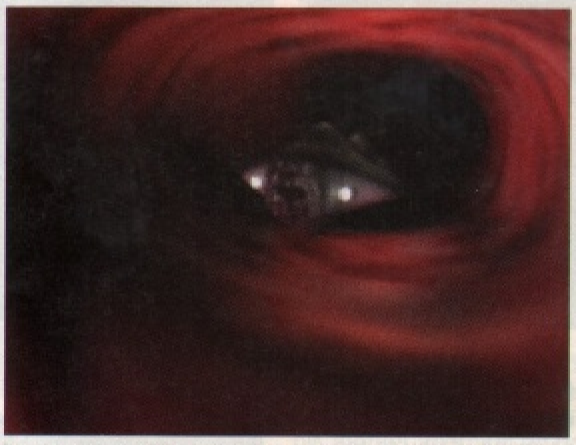
We all know that CD-ROM holds huge potential for games. Despite having 600Mbs to play with, and the opportunity to spool video animation and CD quality sound direct from the disc, so far we've been offered nothing more than ports from existing floppy games. Determined to make their mark on the new-born CD games market, Psygnosis have approached the job from a completely different angle, and the results are just about coming to fruition.

First off the blocks is likely to be *Microcosm*. Taking the basic theme of the two films Fantastic Voyage and Inner Space, it's an epic action adventure that's had a development team of around 32 people working on it for the last 12 months.

It's the year 2051, and one corporate buy-out after another has lead to the formation of two massive companies, with the finances of the world depending on their success and failures. Both have decided that there's no room for the other. However, while one attempts to get the upper hand through honest business dealings, the other resorts to more sly tactics. They've implanted information-extracting computer chips into the brain of rival company boss Korsby, the plan being that they can now predict their competitor's future deals, and take action accordingly.

INJECTED WITH A POISON

Playing the role of an air-ace of the future, you're minaturised, injected into the boss's bloodstream, and given the task of finding and destroying the implant. In typical Psygnosis style, it will be fronted by an extravagant intro animation, which sees the camera zoom into a planet surface from outerspace, down through



Some scenes in *Microcosm* are very similar to the film Inner Space, especially the shots of the ship travelling in the arteries.

the cloud base, swooping into a futuristic cityscape, along the alleyways and streets, through a window into a lab containing Korsby's body. Entering one of the life-support tubes connected to the body, the player is sucked into the blood system, and takes control of the craft.

You might think that's the last of the fancy graphics, but that's where *Microcosm* is different. That same cinematic quality visuals continue right through the game itself! Your put in control of a minute bio-ship, hurtling through the veins of Korby's body. Not for the squeamish this one – the inside of the veins look horribly realistic, with strings of goo hanging down like stalactites. In fact, it's just like in those medical documentaries that always come on when you're having your tea, with a surgeon poking a pointy little camera on a wire down some poor soul's various pulsating orifices.

24-BIT SLIME

It's light-sourced colour 3D all the way, but there's not a vector or polygon in sight. Instead, everything has been ray-traced on professional 24-bit systems, down-converted for Amiga/CDTV compatibility, and written onto the CD. Once in the game, the background images are loaded from the disc, and played like a series of multiple choice animations, depending on which route you take.

The real action takes place over the top of these stunning backgrounds. On your way to the brain, you'll have to fight off countless enemy ships, implanted to stop any such counter missions such as your own. Any new development is accompanied by a brief cut-scene, showing for example, a full-screen close-up of your ship as it bobs and weaves through the tunnels

This is just the stuff to kick start the CDTV and CD-ROM scene. If this doesn't set the market alight when it's released in March '93, nothing will.



This 24-bit rendering makes up part of the opening sequence. Unfortunately, pictures of this quality are going to be hard to transfer to the Amiga, even with CDTV.



The ship approaches one of the implants in Korsby's body. Take careful aim and blow it away before the rival corporation's goons get to you.

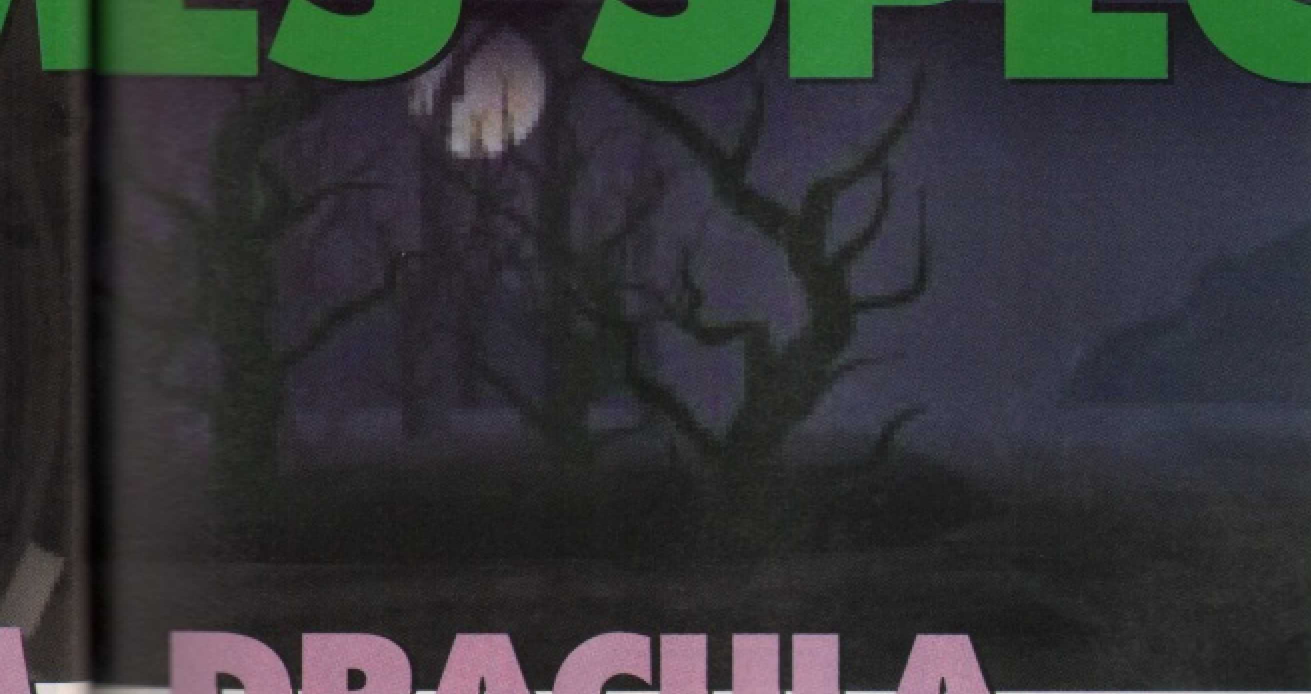
BEHIND THE SCENES

We were so stunned by the quality of the two upcoming titles that we thought it only fair to give credit where credit's due. So, here's a role call of the team involved:

- Publisher: Psygnosis

Devlopment Team:
- Artists: Neil Thomas, Lee Carus-Westcott, Garvan Corbett, Jeff Bramfitt, Jim Bowers, Neal Sutton, Nicky Carus-Westcott, Mike Waterworth, Chris Moore, Gary Burley
- Programmers: Paul Frewin, Chris Wylie, Gavin Dodd, John Gibson, Dave Berisford, Kenny Everett, Mike Anthony, Andrew Toon, Simon Moore, Stuart Sargasson, Dominic Mallinson.
- Designers: Tony Parkes, Nick Burcombe, Nik Wild.

ES SPECIAL



DRACULA

Not content having just one enormous CD-ROM project on the go with *Microcosm*, Psygnosis are beavering away on another monster. *Dracula*, no stranger to computer games, is soon to make his first appearance on CD-ROM.

THE WOW FACTOR

If Psygnosis had their way, all games would simply be marked with a 'Wow!' factor. If that was the case, they'd have had quite a few 100% reviews by now. Even going back to the days of *Arena* and *Barbarian*, and more recently the *Beast* series, they've always managed to produce that jaw-dropping initial impact that shoots right off the gosh-o-meter. Guess what? They're at it again.

In a first for Psygnosis, they've won the rights to publish the official game of the forthcoming Dracula film. Starring Anthony Hopkins among others, Dracula opened in the U.S. in the autumn, and packed out cinemas across the country. Psygnosis are hoping for a repeat performance when it opens here in March.

The movie follows the plot of the original novel fairly closely. Jonathan Harker is the good guy, who finds himself in dealings with the Count, who wants to get himself a bit of property over in Olde England. All seems well, as Harker accepts an invitation to lodge at the Count's castle in Transylvania. All this changes when Dracula spys a photo of Harker's girlfriend, who bears a remarkable resemblance to an old flame. Soon she becomes an obsession, and Harker begins to get the feeling that the Count has an ulterior purpose when he asks him to stay for a little bit longer. Harker has to try to stop Dracula getting to England and putting his pointy fangs into his girlfriend. This is a perfect plot for a platform based beat'em up, after all haven't we all heard much more ludicrous plots used for these kind of games?



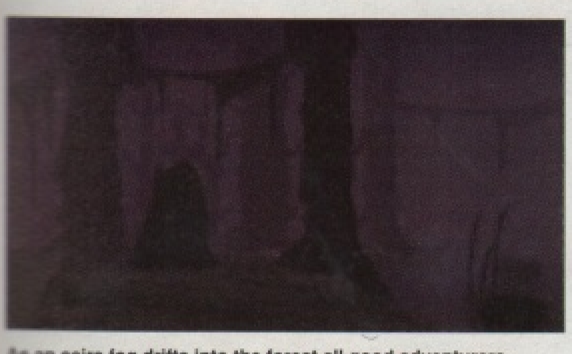
After the Psygnosis team had been digitsed, the pictures were retouched using *DPaint*.

As with their other big CD title *Microcosm*, the 'blimey, that's good' comments, are induced by the stunning visuals. With the help of a Soft Image professional 24-bit 3D animation system, the Scouse lads have produced a game that looks like nothing you've ever seen before.

Most of the game takes the form of a horizontally scrolling beat 'em up, with arcade adventure elements creeping in at certain points. As far as the gameplay is concerned, it's fairly straightforward. Different levels take you through swamps, forests and castles, throwing up bats, ravens, rats, bewitched statues, gargoyles and Dracula himself, who has to be battled a number of times before the final conflict.

REAL 3D

What makes it different from anything else are the graphics. We've all seen parallax scrolling backgrounds, sometimes with dozens of planes as in the *Beast* games, but nothing can compare to the illusion of three-dimensional depth given by the backgrounds of *Dracula*. Usually, parallax effects are created by moving sets of flat graphics at different speeds, with those in the foreground moving fastest. This can be very



As an eeire fog drifts into the forest all good adventurers should be tucked up safely in bed – NOT!



The representation of Dracula's castle has closely matched the descriptions in the original novel by Bram Stoker.

Weird creatures roam the corridors after dark. Any sensible man would follow Dracula's instructions to remain in his room. Unfortunately, hardened adventurers don't have the sense to follow simple instructions, so it's off for a bit of wandering.

effective, but it still looks like a load of cardboard cut-outs moving across the screen.

Imagine you could dispense with all that pseudo-3D scrolling, and walk around in a fully ray-traced, texture mapped environment, that scrolled and panned under your control. Impossible? Don't you believe it, because that's just what you get with *Dracula*! Whether you're running through the icy wind in the spooky forest section, or hacking your way through the castle stage, you can't ignore the amazingly solid-looking backgrounds as they scroll past.

What makes it even more convincing is that this isn't just an automatic slideshow animation running behind the main action – it's all under your control. Not only do you walk along in front of these wonderful 3D scenes, but you also interact with them to a degree, walking up rendered animated staircases, opening trap doors and so on. If all this wasn't impressive enough, you get even more mouth-watering animations as you move from one scene to another, with dynamic panning and zoom shots taking you around from place to place.

BLUE MOVIES

Innovation number two concerns the rest of the animation. The design team wanted to get the most realistic sprites possible, to equal the standard of the backdrops. However, digitising figures directly from the film wasn't viable. Instead, Psygnosis had to turn their hands to a bit of dramatics themselves.

Dolled up in their own replica costumes, the team got out their video camera, and shot themselves running, jumping, dying, casting spells and all that kind of thing. These Oscar-worthy performances were then transferred to *Deluxe Paint* for retouching and animating, separated from the background using a variation on the 'blue screen' technique, the same method that's responsible for putting Doctor Who on the Planet Tharg, and superimposing newscasters on footage of efficient-looking office scenes.

Due for release in March '93, *Dracula* could be to the CDTV what *Defender of the Crown* was to the Amiga. It remains to be seen whether the gameplay can equal the graphics, but either way, it looks set to shift quite a few units this Easter.

THE COMPETITION

So what are these gorgeous games up against then? So far, most of the games to appear on CD have been identical to their floppy counterparts. The trend has been to put existing games lock, stock, and barrel onto CD, then fill up the rest of the disc with extra soundtracks, intro animations, or simply stop at porting the basic game. Some of the recent releases have started to show a little flair in design. Take *Sherlock Holmes: Consulting Detective*, from Icom Simulations, which was a title that not only used the visual storage capacity of the CDTV well, it was also a decent game.

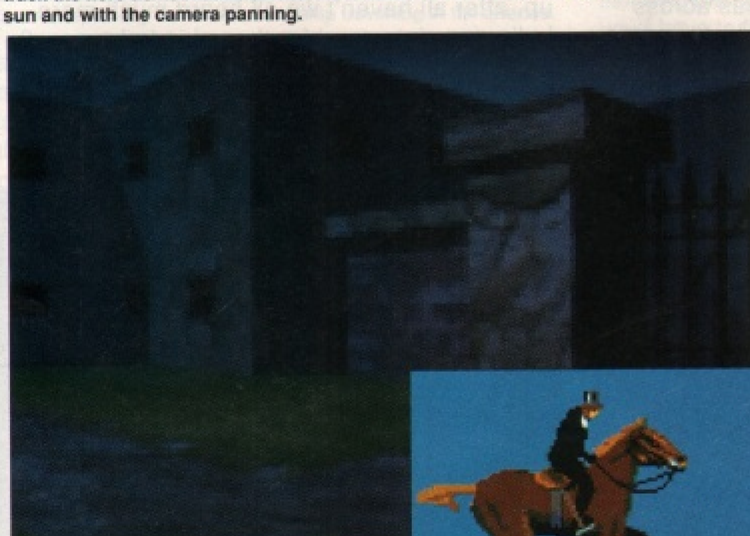
Although the CD-ROM concept has been knocking around for a few years now, it's still quite a recent development in reality, but unless more of its potential is tapped soon, it could die an untimely death before it's got off the ground. After all, hardware is only as good as the software it runs. With *Microcosm* and *Dracula*, Psygnosis seem to be the only team using CD-ROM as anything other than a big floppy. So what about the rest of you, eh? Get your fingers out!



These wonderful quality pictures will, hopefully, be matched by an equally haunting soundtrack. Let's pray that Psygnosis have the sense to include some spot effects, like the hollow sound of footfalls on the stairs.



The sun sets on another day. It's only at night that our hero's, Jonathan Harker, worries really begin. The plan for this scene is to track the hero as he moves across the screen. The shadows will be continually rendered, live, so that they move with the setting sun and with the camera panning.



The scene is set outside Dracula's castle with a superb animated intro. Dynamic panning shots and thunderous sound effects get the pulse racing ready for the spooky action to come.



The horse's movements were taken from a real one using a video camera. Each frame was then digitised, and then the whole sequence was strung together using *DPaint's* animation features.

small tips

Artful advice, bright bonuses, canny cheats,...the CU ABC of game-playing guile is here – the small tips that are a big help!

ADDAMS FAMILY

If you're in an ooky kooky spooky mood then these level codes for the creepy platformer will send a shiver down your spine:

Level 2: 91R18
Level 3: R1R1G
Level 4: R99K&
Level 5: V919B
Level 6: VGR12
Level 7: BGKKX
Level 8: BLJ12



BART SIMPSON AND THE SPACE MUTANTS

To skip a level, type 'SHEEP IN A GROUP WEARING HATS' during play. It's also worth trying 'EAT MY SHORTS' and 'COWABUNGA' whilst on the title screen.

HEIMDALL

Here's a handy hint for heroes who never say die. If your character has just been killed and you want to restore your weapons, magic, and crew members, but forgot to save the game beforehand, all is not lost! Go to the 'Save Game' option at the beginning of the game (where the attribute options are). When the instruction to insert your saved game disk appears, click on 'NO' and you will return to the Items screen with everything you had before you were killed.

JAGUAR XJ220

Core's excellent car racing game can prove quite a challenge. To do a two minute lap in just 30 seconds, go to the mode part of the music section and hit the left arrow key on the scan.

THE KILLING GAME SHOW

Come on down... the cheat is right! If you open the box, rather than take the money, you'll see that you've won a golden shot at another top tip. Don't press the Fire button while you're on the 'Good Luck' screen, press Help and a map of the forthcoming level will appear. Once again, when the 'Press Fire to Continue' message pops up, press Help and all your lives will be restored. If, even with all this aid, you still get killed, hit the Help key once more during the replay. You will start again, from the point at which you died, with five lives.

PITFIGHTER

If you're getting impatient for the rough and tumble of the higher levels of this game, type 'LOBSTERS' during play. If you now press a numbered key you will zoom to the level with the same number. And there's more... 'C' will send you to the last championship level, 'G' will put you into the grudge match, and 'L' will enter you for the elimination match.

SHADOW WARRIORS

Having trouble shadow boxing in this exciting beat 'em up? Hold down the Control, Escape, F2, C, J, V, Help, Right Alt, Left Bracket (numeric keypad), and Enter (numeric keypad) keys while the title screen is displayed. Phew! Having used all your fingers to do that, the bottom of the screen will flash. If you now press 'Help' you will skip levels, '1' and '2' will give your character more energy, and 'Q' will make him invincible.

TERMINATOR 2

Now you can change levels as fast as the T-1000 changes shape in this game inspired by the all-action movie. After pausing the game, press each of the Function keys in turn. Press fire to resume play and you'll find the Escape key advances the levels. Hasta la vista, baby!



XENON 2

To skip levels in this classic shoot 'em up, pause the game and type 'RUSSIAN AIR'. Switch off the pause and press 'N' – it's as simple as that.



LEGEND OF KYRANDIA



As there appears to be some confusion surrounding whether or not it is possible to install *Legend of Kyrandia* onto a hard disk, let's set the record straight. It is possible to carry out this simple task, but the documentation included in the game packaging is not helpful.

The simple solution to this problem is to create a new 'Drawer' in your workbench window and place all your Kyrandia files inside it. Open up your hard disk window and click on the Empty drawer icon. Pull down the Workbench window from the top of the screen and select the Duplicate icon. You will now have created a copy of the Empty drawer. Pull down the Workbench menu again and select Rename. You may now rename the 'Copy of Empty' label to Kyrandia. Insert the first floppy disk of the game set and open up its window to display the INSTALL icon. Drag the INSTALL icon into the Kyrandia drawer. This will copy the installation file from the floppy and put it inside your Kyrandia drawer on the hard disk. Double-click on the INSTALL icon inside the Kyrandia drawer and the screen will clear and the installation will automatically begin to copy all files from the floppy disk onto the hard disk. You will be prompted as normal to insert each of the floppy disks in turn until the installation is complete. Close the Kyrandia window and open it again to display the new game icon which has appeared. Voila, it's installed.

GOBLIIINS

Many thanks to Karen Coward of Gloucester who has increased the store of human happiness with the following thorough cheat collection. A special CU 'Ta, very much' also goes to Alex Barley of Maulden, Bedfordshire and Daneel Siddiky of Dundee for the many cheats they contributed to this month's issue.



Those Gobliiins! In one ear and out the other.

The access codes for Gobliiins are:

1 – No code
2 – VQVQFDE
3 – ICIGCAA
4 – ECPQPCC
5 – FTWKFEN
6 – HQWFTFW
7 – DWNDGBW
8 – JCJCJHM
9 – ICVGCGT
10 – LQPBSJS
11 – HNWVEKZ
12 – FTQITLA
13 – DCPJOMD
14 – EWDENNH
15 – TCNGTOU
16 – TCVQRPM
17 – IQDNKQO
18 – KKKNSRA
19 – MEMEISG
20 – MLEURTF
21 – KEUDEUJ
22 – SOLEDVT



'I know it doesn't look much now, but wait until the decorators have been in.'

To finish the final screen and complete the game:
1: Magic the flat stone.
2: Catapult the rope.
3: Catapult the bad wizard.
4: Magic the bat.
5: Hit the turtle.
6: Take the bag.
7: Drop the bag on the floor, directly below the spider.
8: Catapult the thread between the spider and Asgard.
9: Magic the spider.
10: Wait until the three spiders have fallen into the bag.
11: Take the bag.
12: Finally, use the bag beside the cooking pot. Tada, you've finished the game.

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PART ONE

Hot on the heels of our review last month comes this super guide to the Screenstar-rated game. If Malcolm's leaving you feeling less than jolly our step-by-step player's guide will soon wipe the smile off his face.

THE LEGEND OF KYRANDIA



The best bit of bridge work I've seen since I last went to the dentist: Herman's work is done and Brandon may cross to the Timbermist Woods.



'Give me the tools, and I will finish the job!': With Kallak's saw Herman says 'I'm a lumberjack and I'm okay', and prepares to repair the bridge









Tears of a clown: Malcolm the mad jester won't feel like laughing when he knows Brandon's been repairing the damage he's caused. A tear caught at the Pool of Sorrow fits the hole in the rotting willow perfectly. Green-fingered Brandon does his bit for re-forestation by curing the tree and allowing it to spring into life as though it was, well, spring!

Brandon appears courtesy of the Kyrandia Playhouse where he is currently starring as Buttons in 'Cinderella'.

AT HOME

To begin with, don't let Brandon waste time with his granite grandad – the old man will keep his petrified pose until our hero's mission is accomplished. Just pocket the note and the giant garnet on the work-bench, swipe the saw from beneath it, and grab the apple from the purple pot. After chatting with the Tree Messenger, Brandon should be on his way by taking the tree root lift between his house and the ground.

Send Brandon to speak to the temple to meet Brynn. He can reach her by exiting the screen showing the ground beneath his treetop home, heading left (past the withered willow), left again, up (i.e. through the exit at the back of the screen), and then enter the temple.

Give Brynn the paper and a hidden message will appear on it. Malcolm the mad jester will be revealed as the source of Kyrandia's woes (as if you didn't know that already). Brandon must then go and fetch Brynn a lavender-coloured rose. Don't let Brandon's knapsack get overburdened – leave the note with Brynn before leaving. Brandon may wish to secrete caches of useful objects in places he can return to, rather than try to carry everything. Return to the base of Brandon's house, exit screen right, pick up the sapphire if you wish, then go right again, to the Pool of Sorrow. Gather a teardrop from the pool, then go back to the willow and cure it by dropping the tear into the hollow on its trunk.

That sprightly sprite Merith will now pop up, wanting a game of hide and seek. Brandon should play along: follow Merith to the right, until the Peridot appears (although you may safely ignore that), then up. Catch Merith lurking by a tree, and keep the purple marble he then offers Brandon. If you send Brandon right again, he will find himself beside a forest altar. Place the marble to the left of the two marbles already in position, and pluck a purple rose, which grows nearby.

Brandon now returns to the place where he saw the Peridot, continues down (i.e through the exit at the bottom of the screen), past Herman's tree, down again, then left. Brandon will now meet Herman beside the decrepit bridge; give him the saw so he can busy himself making repairs. Brandon should leave Herman to it, and take the rose to Brynn.

Once she has it, the rose will be magically transformed into a silver flower. Take this to the silver altar and place it on top. A jewelled amulet will now appear. Brandon should go back to Herman and find the bridge completed – do not attempt to cross if it isn't finished, it's a long way down and Brandon can't swim. If the bridge is ready, hurry across into the Timbermist Woods.

TIMBERMIST WOODS

Once in the woods, head left to Darm's house, then left again to go inside. Darm will ask for a quill, and Brandon should go in search of one. Leave Darm's house, go down to the statue, then right, where Brandon will find a tree with a songbird's nest in it. A walnut lies nearby, pick it up before returning to the statue. Go left, to the marble altar, then left again to a grove of oak trees. Take an acorn from one of the oaks, and all you need now is a pine cone. You may have to wander around the forest a bit to find one, so keep an eye out and keep track of your movements. Have a word with Nolby (down from the statue) and he may give you a hint.

When Brandon has the walnut, the acorn, and the pine cone, go back to the tree with the bird's nest in it. Go down to the wishing well, down again, then down once more to Deadwood Glade. Plant the walnut, acorn and cone in the hole and a plant will grow magically, energising the amulet's yellow gem. Return to the songbird's tree and use the gem – it has acquired the power to heal. The songbird had been ill (poor thing); if Brandon cures it with the gem, the bird will be so grateful it will give him a quill.

Take the quill back to Darm, who will use it to write a magical scroll. Brandon should take the scroll with him when he goes looking for the four birthstones, as Darm suggests. Go back to the wishing well, then right, to the bubbling spring. The first stone he needs, the sunstone, is in the bottom part of the spring. Things now get tricky! Nine more varieties of gem lie around the Timbermist Woods, and the glades near Brandon's home. All of these must be gathered as the nature of the next two birth-





Our fashion victim chats with Darm and his dozey dragon to check that he's on the right track. Is he one of the Feathermen? When Brandon cures the birdy with his newly-invigorated yellow gem it will drop a present for him – don't worry, though, it'll only be a quill.

stones is unpredictable and varies from game to game (remember the advantages of saving games prior to vital moments).

Brandon now goes back to the oak grove, then up to a tree upon which grow rubies. Brandon needs to pick one (as this is the fourth birthstone), even though he will be bitten by a poisonous snake on the first attempt. Once a ruby has been acquired, Brandon may heal himself with the amulet's yellow gem (if he continues his quest without curing himself he will soon die). Go to the marble altar and place the birthstones in the golden plate. It is necessary to do this in the correct order: the sunstone first, trial and error for the next two, and finally the ruby. If Brandon has guessed the correct sequence – Alakazam – the plate will become a flute.

Return Brandon to Darm (with the flute, of course) and listen to the directions to the cavernous labyrinth of Shadowrealm. Go to the Deadwood Glade, head right, then right again to stand before the fearsome serpent-headed cave entrance. As Brandon approaches, Mad Malc will appear for the first time, intent on some slapstick. The jester will hurl a dagger at Brandon, but will miss him. Brandon must then throw back the blade, sending Malcolm scuttling into the cave, sealing the entrance behind him with ice. Play the flute, the sound of which will smash the ice. Leaving the flute behind, Brandon may now enter the cave and, through this, Shadowrealm.

SHADOWREALM

Dangerous shadow wraiths lurk in the dark of these caverns and will kill Brandon if he enters any part unlit by the fireberries which grow at various places in the vicinity. Don't forget that each berry will glow for only three caves! Pass by the mineral pool, going up to grab some fireberries. Return to the pool, then go right, harvest some more fireberries, and go right again to an iron gate. Head right again, into the depths of Shadowrealm, and the gate will shut behind Brandon. If Brandon finds himself with a surplus of berries, bear in mind that these can be used as handy route markers – if fireberries are dropped they continue to glow.

The best route to follow, which includes plenty of fireberry bushes, is this: right, up, right, down, down, right, then up. The first of five rocks which may be used to counterbalance, and thereby raise, the iron gate will be found here. Brandon will need to get back to the woods soon, so have him either pick them up as he goes or remember to pick them up on the way out – fireberries are more important at this stage, however. Brandon should continue up, right, right, up, and then right again, to reach the Pantheon of Moonlight. The problem the pantheon poses must be solved for Brandon to complete his quest, but don't try to do anything with it yet. Go right, down, down, left, down, down, down, and right to the Cavern of Twilight. There is a coin in this cave, which Brandon should pocket before continuing. Head right, right, up, left, up, up, right, right, down, right, and up to the Emerald cave where Brandon should grab an emerald before proceeding. Go up, right, right, and up again to grab the final rock before returning all the way to the iron gate.

Using the rocks, open the gate, and send Brandon back to the wishing well in the woods. Throw in the coin and pick up the moonstone which will then appear. Re-enter Shadowrealm and put the moonstone in the base of the Pantheon's pillar. The amulet's purple gem will now be switched on by bright will-o-wisps, granting Brandon the ability to float, with his own illumination, and no further need for fireberries. From the Pantheon, float to the Cavern of Twilight again, then go right, right, right, up, right, down, and right once more to reach the banks of a volcanic river. Use Darm's magic scroll to freeze the river, then float across (up). In the next screen will be found a fireberry bush and, more importantly, a key to Castle Kyrandia. Keep the key and flit back to the first fireberry bush you encountered after coming through the iron gate. Go up, then up again, and Brandon will have reached the Chasm of Everfall. Our hero may now fly across (Up again!) to Faeriewood.

FAERIEWOOD

Feel free to let Brandon roam at will once he reaches Faeriewood – it doesn't matter where he goes, he'll soon get beaned by a falling branch. When he regains consciousness, Brandon will find himself in the laboratory of Zanthia the alchemist. She will ask Brandon to fetch water from the magic fountain. Send him there, with several flasks from the lab, by exiting the left of the next three screens. Be careful when leaving Zanthia's, however, as a giant man-eating frog will be watching from the swamp: it will eat anyone who gets too close. Malcolm will turn up at the fountain, and vandalise it by taking one of the crystal globes that circles it.

To restore the fountain to its former glory, Brandon should begin by walking left, left, down, down, left, up, and up again to the Flaming Tree. The crystal orb is amongst the flames, but Brandon may get past these free from harm by using the magic of Darm's scroll upon them. After Brandon has taken the orb back to the fountain, and has mended it, he will be able to fill his flasks with water. Have Brandon take a drink of this water, and the blue gem on the amulet will be empowered, and enable Brandon to eliminate minor magic spells.

When Zanthia has been given the water, she will drop some hints about the various effects of her potions. Brandon's new mission is to find blueberries to pop in a potion. Return to the screen before the Flaming Tree, then send Brandon left, left, left, and then up to a sparkling waterfall. Pick the blueberries which grow nearby, then return to the lab to find Zanthia gone. A trapdoor beneath the mat forms the entrance to a passage leading away from the house. Go through the trapdoor, then head right, right, right, up, up, and up once more to a tropical lagoon beside which red orchids grow. Brandon should not attempt to float to the other side using his will-o-wisp power as a fish will leap from the deep and swallow him.

NEXT MONTH

That should give you enough to go on for the moment. For those of you still having trouble with the later levels, the player's guide will be back next issue with the final part of the solution to the *Legend of Kyrandia*.

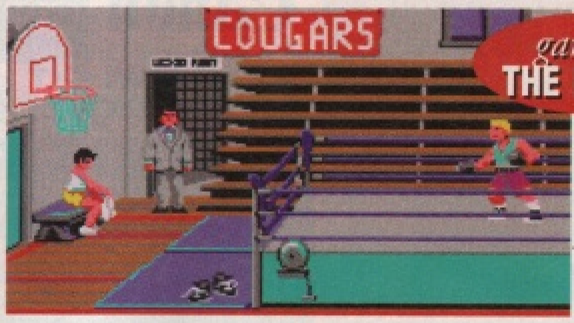


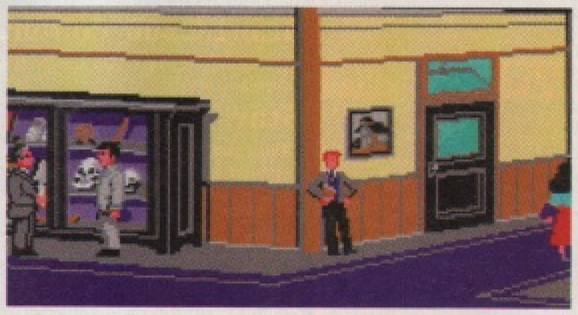
'Oh, the Deadwood stage is easily overcome': plant an acorn, a walnut, and a pinecone in the hole and a whole lot of shaking will be going on as a talking plant bursts forth.

VFM

Steve Merrett returns to the Amiga scene to cast his godly eye over the many new budget games set to appear at a shop near you...

INDIANA JONES: THE ADVENTURE





game of THE MONTH

Based on the third film in the series, *Indiana Jones And The Last Crusade: The Adventure* is the only game that U.S. Gold has released which has done the character justice. Following the silver screen antics of Indy to the word, Lucasfilm's adventure is still a major challenge, and quite simply the finest game to emerge from their stables. Cast as Indy, the player is set the task of retrieving the Holy Grail, and this humble task starts at a small American school before moving to Vienna and Nazi Germany. As well as the stunning puzzles, *The Last Crusade* succeeds on every other count, too. It has stunning graphics, an easy-to-use parser, and a modicum of arcade scenes to keep you on your toes. In short, this is probably the best adventure I have ever played and, whilst I honestly can't profess to being an expert of the genre, this has once again got me hooked. And that's after I went to the trouble of completing it first time round. A genuine classic, and an essential buy.

92%

KIXX XL OUT NOW £12.99

BATTLEHAWKS 1942

Flight sims never really do anything for me, as the reward for all that mastery of a dozen assorted key presses and flap wiggling, simply isn't justified by seeing a number of polygons disintegrate before you. However, I do admit to liking the basic premise of dog fighting; Cinemaware's *Wings* and, indeed, *Battlehawks* offers stacks of such daredevil fighting. Sadly, though, whilst *Battlehawks 1942* wins a massive thumbs-up for its ease of play, it is very samey and is starting to look extremely dated. Controlling your trusty fighter plane, a number of missions await your weaponry and flying skills, including missions to take out large targets. However, by the time you have got used to the sluggish controls, jerky screen update, and the chunky and barely recognisable enemy sprites, all the atmosphere and playability has been shot down ages ago. Not really worth the effort, I'm afraid.



56%

KIXX XL OUT NOW £12.99

DIZZY: PRINCE OF THE YOLKFOLK

(Read with heavy irony) Oh good, Dizzy has returned in another of those flick-screen arcade/adventures. Great, this means that once again I can wander from screen to screen picking up weird-looking objects and put them to use in a series of obscure puzzles. AND I can then spend ages talking to tedious characters who offer about as much interaction as a loo door. Basically, you know what to expect here, and it is just the same old stuff cobbled together with a few new puzzles and characters. Still, if Dizzy games are your bag (in my case, a colostomy bag) then you'll be fairly chuffed with another competent but uninspired entrant to the series. Somehow, though, these seem far more suited to the more limited Spectrum market.



35%

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ZAK MCKRAKEN



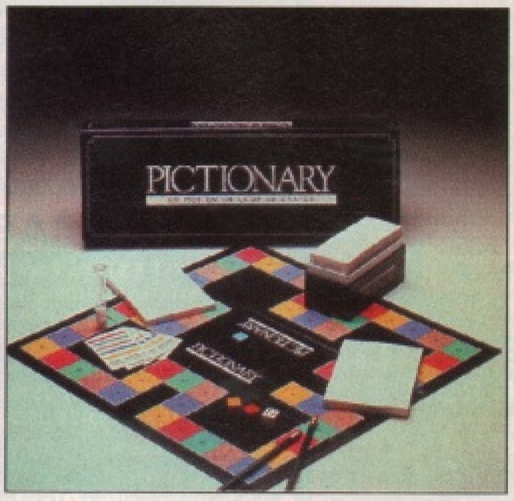


Released slightly before *Indy*, *Zak McKraken And The Alien Mindbenders* is a top-notch spoof of countless B-Movies – however, unlike Gremlin's turgid *Plan 9*, it pulls it off perfectly. It transpires that aliens are set to overtake the world, but one 'Super scoop', Zak McKraken, has rumbled, and is unravelling, their plan; and – guess what? – you're Zak! Using the same point'n'click system as both *Indy* and the more recent *Monkey Island* games, but *Zak* looks a little primitive in comparison, it still beats the pants off more recent games. The humour is excellent with loads of little in-jokes, and the characters are introduced one-by-one and this adds to the atmosphere perfectly. If you're split between *Indy* and *Zak*, I'm afraid there is only one answer available to you – buy 'em both. I guarantee you won't regret it...

89%

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PICTIONARY



Normally, the idea of translating a board game to a computer is fairly sound. There should be no more cheating the banker in Monopoly, no more losing the question cards in Trivial Pursuit, and card games will have the pack shuffled and ready to play. However, *Pictionary* is a different kettle of worms. The board game relies on a number of lagered players sketching whatever the game cards instruct them to. Thus, translating these on to a computer screen relies on the game featuring a fairly decent drawing package. Oh dear, it's a pity then that *Pictionary* is saddled with a package which is about as flexible as Stevie Wonder with an Etchasketch. Because of this, the game takes twice as long to get into as it does actually drinking large quantities of lager and setting the board game up. And even at eight quid it's still a dubious purchase...

56%

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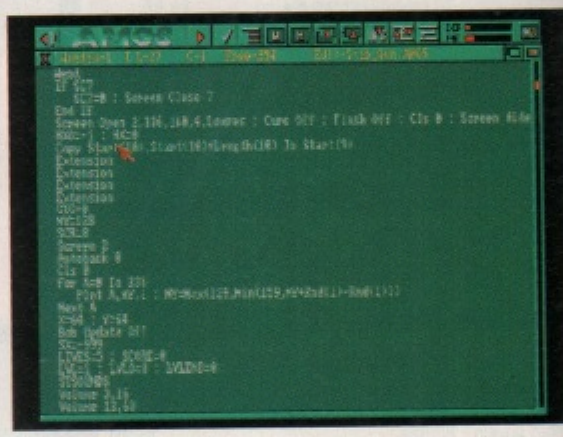
GET SERIOUS

CU AMIGA TOP RATED

The top rated accolade is for non-games products scoring over 90%. They will definitely be worth the money and are likely to act as a benchmark for future releases.

TOME Series IV

Nick Veitch looks at a great help for games' programmers stuck for a backdrop.



You know the problem. You want to create a game, probably some kind of shoot 'em up. But how exactly do you create all those backdrops, and more importantly, how do you continuously scroll them from within your game?

Well, the answer, like the answer to so many things, is tiles. Tiles are small squares of picture data, like IFF brushes, which are assembled in order to create a full image on the screen. The advantage of constructing a picture in this way is that when some parts of the screen are similar, the same tile can be used more than once. If you are very cunning about the way you arrange the tiles, the end user won't even notice that you have used this method to construct the screens.

Since the entire screen is made up of tiles, you can then define complete images just by listing the

A-Gene

Ever wondered just how many famous people you're related to? Nick Veitch may have the answer.

Every year thousands of American tourists descend upon these islands with one objective in mind. Well yes, they do wear loud clothing, talk too much and insist on mispronouncing every place-name they possibly can, but the real reason they come is to check out their roots. They all really want to know that they are related by marriage to the great (to the power of 14) grandson of a man who once got beheaded for 16 groats worth of tax evasion.

A lot of normal people are quite interested in their family history, too. A lot of families find it hard to trace their history back through upheavals like the last World War. Even if you do know who your great grandparents were, it is difficult to record all the information in a meaningful way.

That's where *A-Gene* comes in. It is, essentially, a database, but it is a database which has been specifically designed for dealing with records of peoples lives. Entries allow complete details of birth, marriage and death including locations and dates.

tiles that are required to make it, which takes up a lot less room. These lists are called 'maps'.

It makes sense doing things this way. Consider a game which scrolled over 20 screens of backdrop. Doing it the obvious way with a huge bitmap would require (20 x 32k =) 640k of memory – there wouldn't be enough room left for the game on most systems. With a tiling system these screens could typically take up less than 50k!

About 90% of games use this system for backdrops, so it's about time you did too. *TOME* is a complete software extension for the *AMOS* programming language. It adds commands to allow the use of tiling systems from within *AMOS*.

It can handle tiles on a number of different resolutions (16x16, 16x32, 32x16 and 32x32) and the maps are very compact taking only one byte for each tile used. In the example above the 20 screens could be compressed to 36.8k with the highest resolution of tiles, and even less using 32x32.

The system comes, as you would expect, with a tile editor and map creator program which are, naturally enough, written in *AMOS*. There is also a value editing system. Tiles can be very versatile, and the valuer allows you to set flags on any particular tile. These can be used for anything, but examples include the points for destroying that tile, whether it is solid or not, which tile it should change to if it is hit – you could get virtually anything into the eight bits allocated if you tried hard enough.

TOME also has a complete set of functions dealing with collision detection. It is really a complete game system in itself.

This is the fourth version of *TOME*, which has now established itself as the extension system no *AMOS* programmer can afford to be without. The 60 plus commands are well worth the asking price of £29.99 (£24.99 for AMOS club members), never mind the editing programs that come with them.

Contact: Shadow Software, 1 Lower Moor, Whiddon Valley, Barnstaple, North Devon EX32 8NW. Telephone: 0271 23544.

88%

LOGITECH PILOT MOUSE

Commodore's own mouse has never received high praise. Nick Veitch looks at a better alternative.

There are three things in life that are inevitable: death, taxes and changing your original Commodore mouse for one that works properly. Nobody is quite sure why it is that the manufacturer of the world's most successful home computers is unable to produce decent quality accessories for them.

Think back: the 1541 floppy drive for the C64 (slower than the cassette drive), the Commodore joystick (guaranteed to severely damage your hands), the Amiga external floppy drive (about the size of War and Peace, unabridged version) and finally we arrive at the mouse.

Commodore's rodent, although about the right size and shape for a mouse (which is quite a miracle, all things considered), nevertheless fails on several important criteria. Firstly, its resolution is too low – you have to have a very large desk to be able to use it without 'paddling' backwards and forwards. Secondly, they usually break fairly easily, the button particularly.

It isn't much of a surprise that a lot of third party manufacturers have stepped in to fill the gap, Logitech being no exception.

The first thing that you'll notice about this mouse is that you need to plug in two leads to get it to work. It's been designed for use on the ST, so an adaptor lead is provided. This does add an extra six inches to your length (giving about four and a bit feet in total) but also means that there is a rather large bulge in the cable where the connectors go. Couldn't they have put a switch on the mouse itself?

The resolution is much greater than the CBM mouse, meaning you can actually reach all the corners of the Workbench screen in about the area of a floppy disk. It is also very accurate for detailed work, because it lacks the inertia factor of the lumbering CBM beast.

The buttons have a satisfying resistance which is crisp, not squidgey like on some models, and although it has not been destructively tested (honest Mr. Logitech, it still works) the mechanism is of a more reliable type.

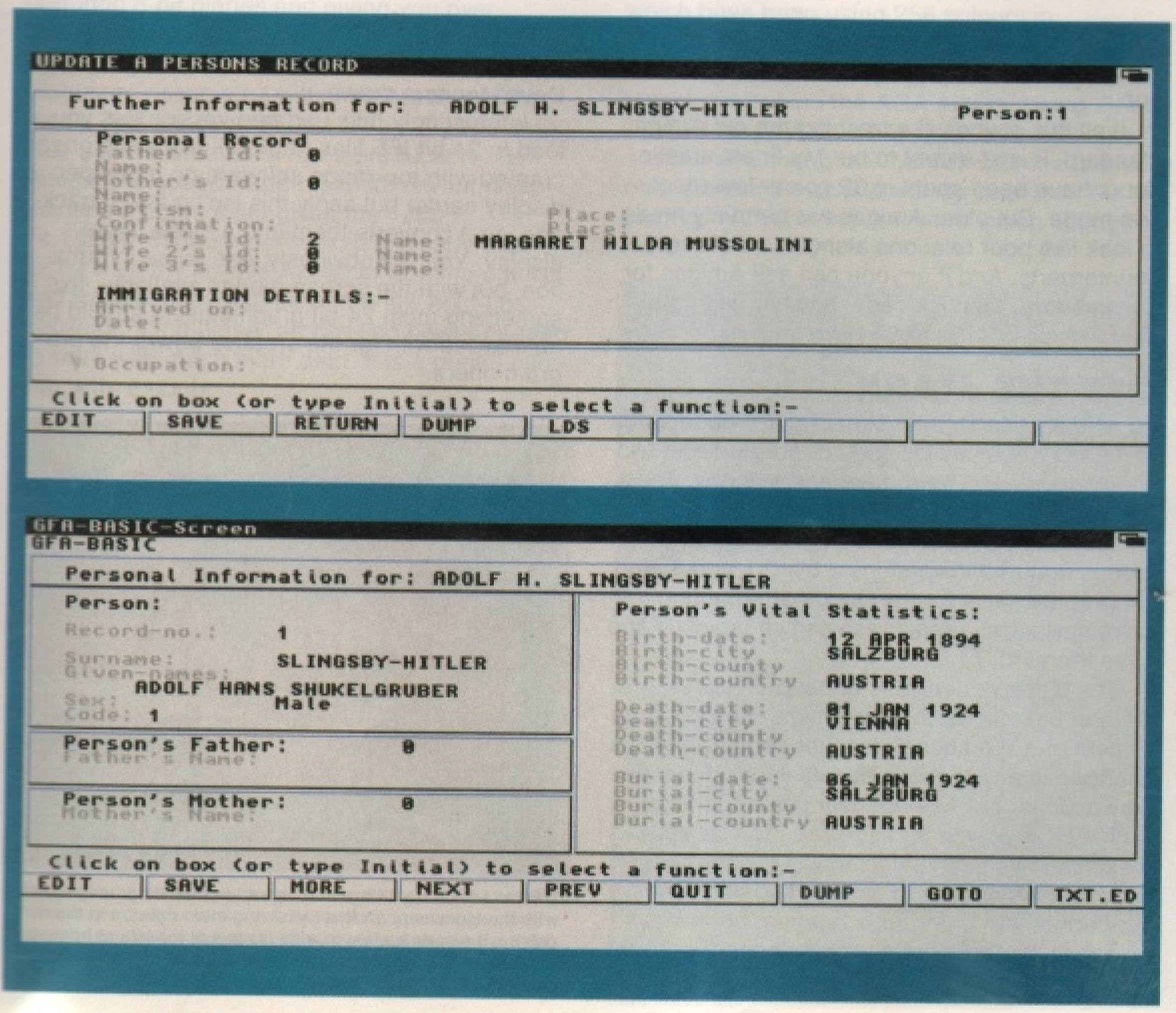
The only disadvantage, for me anyway, was the shape of the mouse. It is curved well, it's a nice size, but it has sharp corners at the rear which, if not actually painful, certainly only have a passing acquaintance with comfortable. It may look very sexy and Porsche Turbo-like, but that doesn't mean much if it's uncomfortable to use.

The mouse ball seems to be of the right type, in that it passed all the statutory traction tests (varnished desk, plain paper, back of magazine), it even seemed to work on a CU mouse-mat (some still available – order now to avoid disappointment).



Contact: Logi UK Ltd., Unit 9, Kingfisher Court, Slough, Berkshire SL2 1JF. Price: £28.20.

81%



All the records can be inter-related to show who is the daughter of whom, which can be quite useful if your ancestors did a lot of in-breeding (well, Dan said it was useful anyway). Multiple marriages are catered for and various methods can be used for viewing the wedding and begettings that have gone on.

The software itself does seem a bit primitive. It has been written in GFA BASIC – not that I have anything against that particular BASIC, or in fact with any BASIC whatsoever, but the gadgets , requestors and overall feel of the software is that it is a bit ropey (and did in fact guru once or twice whilst under test).

Text input is a bit slow and laborious and you can't edit records by simply clicking on the relevant field and changing the text, you have to go through all the fields in the record.

There is printer support for printing out all the details. In fact most of the information that is displayed on screen can alternatively be sent to the printer, via the preferences printer driver. The printouts are text only so you can use the program with any printer.

Pictures can be attached to records though, with a viewer built in. This is a nice feature, but more use of graphics could have been made throughout the software. Still, it is inexpensive and does the job well, if rather slowly when large numbers of records are involved.

Contact: Amiganuts United, 12 Hinkler Road, Thornhill, Southampton. No telephone available.

69%



I took two separate 256 colour images from a rendering I did in *VistaPro* on the PC, imported them into *DPaint AGA* and matched their palettes by re-mapping. The magic happened when I cut out the scene, flipped it vertically, then painted it down with a transparency of 70 to create the lakeside reflection. Using the smear function I created a ripple effect on the water, and added a little light shrubbery around the edges. Photorealistic or what?

Deluxe Paint IV AGA

CU AMIGA TOP RATED

The future just got brighter for Amigaowners – 16 million colours brighter, thanks to Electronic Arts, whose upgrade to DeluxePaint takes full advantage of Commodore's new chipset. Ageing Amiga artist Peter Lee finds it IS possible to teach an old dog new tricks... and we do mean the software!



An old friend, King Tut from the very early days of *DPaint*; here I've loaded him into standard mode, which lets me add multi-range coloured spheres and neon effects, and still have change out of 256 colours.



This NASA image arrived as an old HAM picture; by loading it into *DPaint AGA*, then switching modes to standard 256 colour, very little is lost in the translation. The text is ghosted by using transparency again, this time set at 40.

GROWN UPS

If you hadn't noticed, Commodore's little girls have grown up. Alice and Lisa, cute names for some heavy duty Amiga graphics chips are full grown now.... and more seductive than ever.

The AGA custom chipset, with more colours and modes on offer than ever before, breathes much-needed new life into the range and looks set to re-affirm the Amiga as the top home graphics computer. And with all this pixel power pulsating in A1200s and 4000s (and who knows what other models) , who ya gonna call ? Electronic Arts, that's who. If anyone can make the Amiga sit up and dance, EA can; they've proved it often enough, and they're ready to curl your toes yet again with a new AGA version of *DeluxePaint IV*.

AGA – Advanced Graphic Architecture. What does it mean to you? To put it bluntly, if you don't have it, your machine and you are going to be a bit sick. If you do have the chipset fitted, it means you can forget the 32 colour limit for regular graphics; you can forget 4096 colour HAM (thank God), and wallow in the luxurious comfort of 256 colours for standard work. In techie-speak, the AGA chipset gives you eight bits per pixel RGB, 8-bit HAM and 256 colour modes. In a nutshell, this offers access to over 16 million colours in resolutions from 320 x 200 to 1280 x 400.

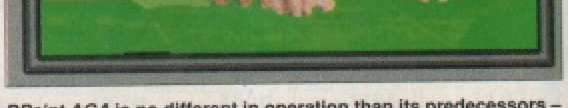
If all this sounds like trashing the old Amiga standard, it isn't meant to be. My finest artistic hours have been spent in 32 colour low resolution mode. But older Amigas are certainly made to look like poor relations alongside their new counterparts. And if anyone can sell Amigas for Commodore, then EA can – and will, with the new version of *DPaint IV*. Here's why...

OFF THE MARK

To actually use *DPaint IV AGA* you'll need 2Mbs of memory, AmigaDOS 2.04 or greater, and two floppy drives or a hard drive and a floppy. The software supports the AGA chipset (the ECS chipset is still supported), AmigaDOS screen modes featured in versions 2.04, 2.1 and 3; and support is in-built for the DrawingPad and DrawingBoard II pressure sensitive tablets if you have them.

The displays available depend on several factors: the chipset in your Amiga, the operating system and Workbench monitor setting. Making changes to any of these affects your *DPaint* display options, but AGA chipset users running Amiga DOS 3, with a multi-scan monitor and maximum overscan selected will get the best options.It is possible to change the slected mode once the program is running, but it may take time for Dpaint to switch palettes (See our modes panel for available resolutions on a bare, but adequate A1200). *DPaint* automatically reads your monitor choice from the Devs/Monitors drawe.

Interestingly, this updated version lets you load in 24-bit IFF files (the photo-realistic ones created with top-range software on high-spec display cards) but sadly this isn't a 24-bit package, so it converts them into a mode it can display. You will obviously lose some information, but with the screen modes available, this is something most 24-bit graphic users should be able to live with for the creative power the program offers.



DPaint AGA is no different in operation than its predecessors – with the big exception that by having more colours in the palette, it can do justice to wide ranges of tones and hues. In this case a black and white image I digitised was colourised using the Process/Value tint option.



The receding floor was made by cutting a 2x2 tile, then filling the screen with the brush tilted back into the screen. The hollow spheres are a product of using translucency, and show that with a greater range of colours, the effects can be more realistic. Highlights were smoothed – again more colours in a range lead to subtler effects, as were the shadows, which were created with transparency, only this time the value was much lower than for the spheres.



A simple idea which would blow away a regular Amiga; the green backdrop, knife blade and handle, not to mention the neon effect on the wording, each use a range of16 colours.



How colours interact when you have lots of them... Using the default palette, and transparency set at 60, the colours from the different lights blend interestingly, if somewhat artificially.



Is all that for me ! You bet – the default palette of 256 colours in *DPaint AGA's* standard mode. How much is an A1200 again?

A LA MODE

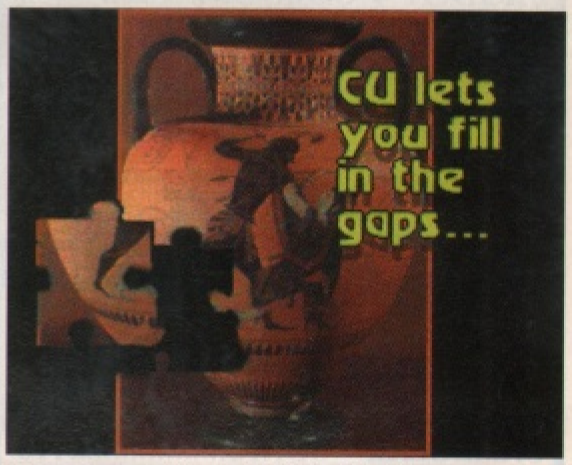
HAM (Hold and Modify), the ugly beast in the closet for Amiga artists forced to use it, has been upgraded too, and now offers resolutions from 320 x 200 to 12800 x 400, whereas before you were stuck with 320 x 200 or 320 x 400 modes. *DPaint AGA* defaults to HAM 8, which offers 64 base colours, but you can revert to HAM 6 with a palette of 16 base colours at start-up. Who would want to, though, with HAM 8, featuring 8-bit planes and giving you over 262,000 on-screen colours? The increase in colour registers cuts down a lot on the fringing nightmare associated with the accepted HAM mode, and although it's not 24-bit, it gives a display unparalleled so far on a production-line Amiga.The speed trade-off is somewhat disappointing though, even given the 1200's 14.19MHz 68020 processor. It is clearly a lot faster than my normal A2000 in working out fills and translucency, but there are still hold-ups because of the higher processing power needed to work with much more data. It is a price I can live with, though.



The original Bilko still. Getting the colours right is the trick; make sure enough colours are included in your ranges to give smooth results. For instance, if you only had two browns, the woman's hair would look too unreal as subtler portions of the original were obliterated by either one brown or the other.

HANDS ON

Anyone familiar with *Deluxe Paint III* or *IV* will feel right at home with the enhanced version. It's the same – but better. True, this is a feature as much of the new chipset as the program, but without *DPaint*, the AGA chipset would just be sucking electricity instead of heralding in a new age of graphics on what began life as the only home art station worth considering. Nowadays artists have to weigh the Amiga against PCs which have been using 256 colours in *DeluxePaint PC* for ages. Having used the PC version, and its sister program, *Animator*, I put my weight behind the AGA Amiga. Using *DPaint IV AGA* on an A1200 has been a revelation – anyone who thought *DPaint IV* was the business on a standard machine will flip over the new pairing. WOW! is the first word which springs to mind.



This HAM screen shows a total lack of the old plague, fringing. The jigsaw piece was cut out of the main image (taken from the Connoisseur collection of great artwork), smoothed and overlaid. The text is semi-opaque using transparency set low.

MODERN MODES

Here's the low down on all those mouth-watering graphics modes the AGA version of *DPaint IV* supports, using our test set-up of an A1200 with a 6820 CPU, 2Mbs of RAM , Workbench 3 and a 1081 monitor:

Display mode	Resolution	Colours	Max size
AA-halfbrite+	640 x 256	64	736 x 283
AA-halfbrite+	1280 x 256	64	1472 x 283
AA-halfbrite-laced+	640 x 512	64	736 x 566
AA-halfbrite-laced+	1280 x 512	64	1472 x 566
AA-HAM+	640 x 256	262144	736 x 283
AA-HAM+	1280 x 256	262144	1472 x 283
AA-HAM-laced+	640 x 512	262144	736 x 566
AA-HAM-laced+	1280 x 512	262144	1472 x 566
ECS+	1280 x 256	256	1472 x 283
ECS-laced+	1280 x 512	256	1472 x 566
Halfbrite+	320 x 256	64	368 x 283
Halfbrite-laced+	320 x 512	64	368 x 566
HAM+	320 x 256	262144	68 x 283
HAM-laced+	320 x 512	262144	368 x 566
Laced+	320 x 512	256	368 x 566
Laced+	640 x 512	256	736 x 566
Standard+	320 x 256	256	368 x 283
Standard+	640 x 256	256	736 x 283

For one thing, not having to worry where your next colour is coming from lifts a great weight from an artist's mind. Before, with only 32 colours to choose from, planning the palette was a major exercise, and one which was almost always doomed to failure as your ideas developed, but the palette remained fixed. Painting with 256 colours means the range potential of colours can be vast, with the offshoot that when you come to subtleties such as transparency (translucency) the effects are so much more realistic as the computer uses a larger number of colours.

I found the standard 2Mb of RAM in the A1200 adequate for most things, but would certainly have to upgrade to get the most out of animations. A hard drive would also seem vital.

The program supports the Amiga's scalable fonts, but I found this just wasn't good enough for professional work, so I invariably loaded in third-party type styles for cleaner, neater rendering. Colour fonts are supported too, and I would have liked an option to try to remap the font's colours before loading, instead of either switching the entire image to the font's palette, or having them load in without their true colours. There is a quick way around this, but why have to bother? Which brings me to the twist in the tail...

GRUMBLES

There had to be some nags – a Yorkshireman never likes anything 100 per cent! Take Ranges. Loved them in *III*, loathed them in *IV*. And now this AGA version has made the selection of colour ranges even more annoying. Because now, the on-screen display of a selected range has been removed, leaving only the range in the requester as a quick guide. This would seem like a step backwards; the requester range is a sucker-punch which always shows the best possible range of colours, regardless of whether they're in your palette or not. In the real world (your drawing), things look very different. Having to call up the fill requester to see what a range REALLY looks like is pretty dumb.

Undo. Ever tried to undo something you've done in magnification after switching back to normal view? Seems like the computer has developed amnesia, because it plain forgets it. You can undo while magnified, but sometimes you want to look at the big picture before deciding if a small alteration has worked or not – and you can't go back a step.

Another of my pet hates which hasn't been addressed is the way the on-screen toolboxes prevent fills and shapes from being drawn 'under' them. If I fill a screen with a brush shape or solid colour, I want it to go right to the edges of the screen, not stop where the toolbox or menu bar is. Why should I have to remove them to do it ?

CONCLUSION

If you need a reason to upgrade your old Amiga, then DPaint IV AGA is it. It'll probably sell more of the new Amigas than Commodore's ad campaign.



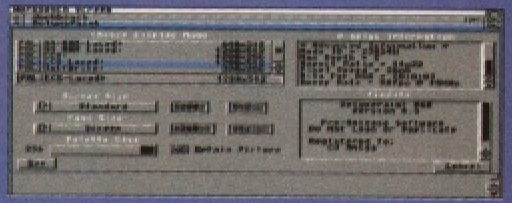
By cutting out the text as a brush, and using that as a mask, the image was smoothed. I then copied as a brush a rectangular portion of the text, where I intended drawing the magnifying glass. Moving to the spare screen, I drew out a hollow circle in blue to the size I needed. Choosing Brush from the fill option requester, and filling in the circle makes DPaint contour the brush to completely fill the area – so it looks like magnification. The translucency was added from the Transparency menu option with a setting of 70, and white as the foreground colour.



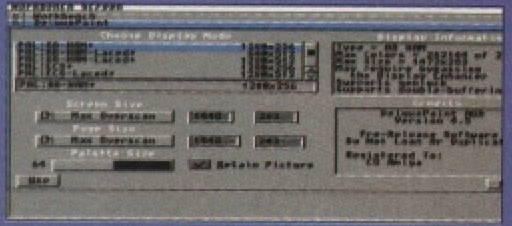
To finish off the magnification picture I added a chain to suspend the ball, and created a motif of bronzed clocks as a background fill, using a range of eight browns.



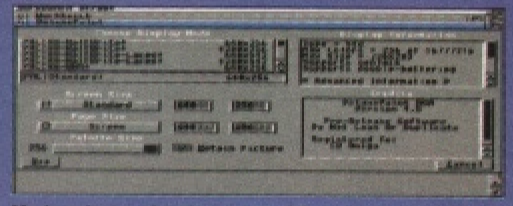
Mode selector showing some of the screen resolutions, and formats available.



Mode selector showing a choice of ECS-laced+, with a resolution of 1280 x 512. Note the palette selector, which can be slid from the maximum (in this case 256 colours) to the minimum.



Mode selector showing that in AA-HAM+ mode you only have 262144 colours on screen at once. Bummer!



Mode selector showing some of the screen resolutions and formats available.



Mode selector showing the advanced information for the current choice, HAM-laced+.

MORE GOODIES

DPaint IV AGA is power-loaded to get the most out of the new breed of Amigas. Here are more goodies on offer:

- Support for 256 colour Animbrushes and animations. Animbrushes and animations work as normal in the new version of DPaint, except they can use up to 256 colours. The only snag, which is no real problem to most users, is on anim or animbrush size. You have to get your calculator out to work out the maths, but the equation for those who like hard work is (screen width / 8) x (screen height –1) has to be less than 65,535. In any event, my advice is to do your own thing, then if there's an error message work around the problem!
- Player utility which can cope with the pretty messy series of Amiga operating versions, from 2.04, 2.1 and 3. The player, which is stand-alone and which can be distributed freely, supports the full 256 colours and HAM 8 animations and images. It's got a simple but effective interface, and allows you to scroll to the edges of pictures larger than the screen.
- IFF parse library support, which means *DPaint* now uses the Amiga's very own IFF system enhancements. No built-in support for the A2024 type monitor though.
- HAM ramps colour off of colour zero. Another technical feature, to do with the tricky way HAM has to use intermediate colours to get from one colour to the other – better known as the famous fringing effect. The result of this is that black (colour zero) has been locked out of colour cycling in HAM mode.
- As well as taking advantage of the AGA chipset, *DPaint* now supports the latest Amiga screen modes like Productivity and SuperHires. Your monitor settings in the Workbench Devs/Monitor drawer are vital for *DPaint* to work out what screen modes your system can display, and if your monitor can't cope with a potential resolution, you just have to live with it. Or get a better monitor.
- Morphing can be made to work in reverse, so you can morph an image to the spare image, or vice versa.
- The on-screen range of colours which, on the ordinary version of the program, used to display if you showed the current range from the requester has been removed. The range is now shown only in the requester itself. Instead, if you want to see the true range (as opposed to the requester's rendition) you have to call up the Fill requester to see the colours.

Deluxe Paint IV AGA

. . . a t a g l a n c e

• Read and convert 24-bit IFF files * Create 8-bit animations and images • Wide range of screen modes to choose from • Vast colour range •Supports AGA chipset

Address: Electronic Arts, 90 Heron Drive, Langley, Berkshire SL3 8XP. Telephone: 0753 549442

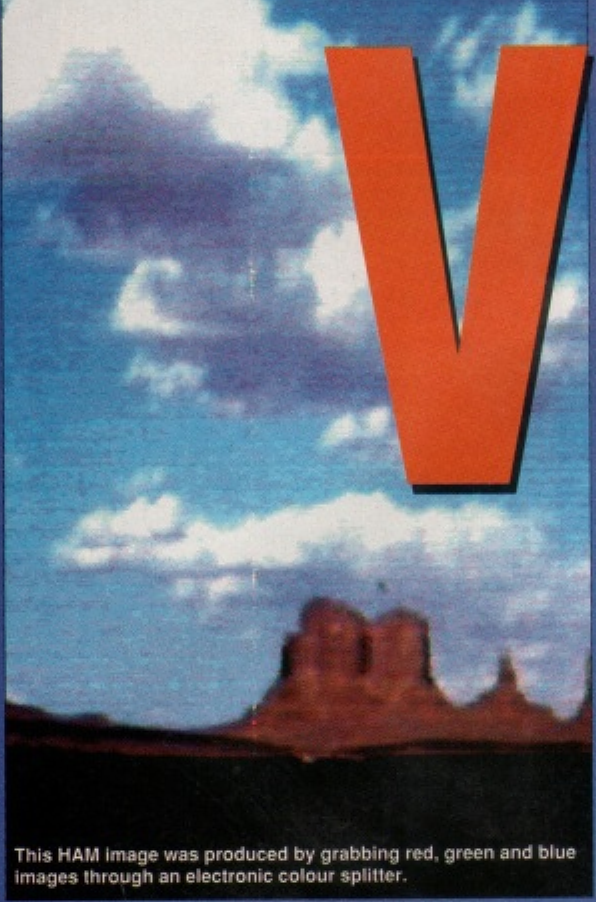
ELECTRONIC ARTS £99.99

'Graphic excellence for the new breed of Amigas'

FEATURES	95%
EASE OF USE	90%
EFFECTIVENESS	97%
FLEXIBILITY	95%
INNOVATION	94%
OVERALL	**95%**

The demo writer's dream has been realised by MicroDeal, with their new VideoMaster system. John Kennedy grabs a look at the future of multimedia.

VideoM



This HAM image was produced by grabbing red, green and blue images through an electronic colour splitter.



The Video Card. On the left is the main monitor screen; the sound data is displayed along the bottom. From this card the record and playback speeds can be determined.



The video source can be adjusted to suit, as well as going for a letter-box format.

IT'S IMPOSSIBLE

When you see VideoMaster working, you know it's impossible. You know that you must be imagining it, because everybody knows that you simply can't have real time video and sound produced on the Amiga. As you watch the sequences of 16-colour frames appear on screen at 25 frames per second, accompanied by a digitised sound track, you know you are dreaming.

But it's true, real time video and sound have at last appeared on the Amiga. It's what everyone has been waiting for years for – 'why can't you get real films on computer anyway?' is a question every Amiga user has fielded from an Aunt at some time or another.

The answer, or course, is that it's impossible. Or rather, it was impossible, because Microdeal, with VideoMaster, have done it. 'There must be a catch', you think, and I'm afraid that indeed there are several catches to be addressed, although none are big enough to take away from the fabulous sight of watching real moving people on your Amiga screen, and hearing them talk.

HARDWARE

First, a look at the hardware which achieves the impossible. VideoMaster is a small beige wedge-shaped box which connects to the large edge connector of any Amiga 500 or 500Plus. It has two RCA/Phono type connectors: one marked video, the other audio, and two small twiddly knobs for adjusting brightness and contrast. Most video camcorders come with leads which will connect directly to these sockets, and if not an electrical supply shop will be only to happy to help you out.

Inside, it contains enough in the way of silicon chippery to provide both a video digitiser and a sound sampler in one box, which by itself would have been a good idea. What makes VideoMaster stand out from the crowd is the way in which the software provided makes use of both video and sound.

This it does most impressively; you can grab a section of moving video and sound from a video source such as a camera or tape recorder, and play them back on the Amiga's screen.

The sound and video can be digitised simultaneously, thus allowing the playback to be perfectly synchronised. When people talk, their lips move in time to the sound – it looks amazing.

Video can be digitised at a rate of 2, 3, 4, 6, 8, 12, or an astounding 25 frames per second. For special effects, you can specify a time-lapse between frames.

If you prefer, you can digitise both the sound and pictures separately, and then splice them back together. You can add sound tracks created with other digitisers, or even go for the 'silent movie' approach.

Your video clips can be edited to crop out any unwanted frames, and then sequenced together to produce a finished film. It's like having access to a miniature post-production video suite.

WHAT'S THE CATCH?

That's the good news, now for the bad. The first catch is that the video images themselves are in only 16 shades of grey, and a quarter of a low resolution NTSC screen in size (that's 160 by 100 pixels). You might think this would give fairly poor results, but I have to say that the images actually appear to be extremely detailed, especially when they are moving.

It's no exaggeration to say that at speeds of 12 frames per second and above, you could be watching a very small black and white television screen. It's certainly better that most of the miniature LCD televisions available.

The second catch is that the sound is sampled at 16KHz, which is far from being CD quality. When the video and sound are digitised together, the sound quality is degraded slightly. When played back the effect is similar to the noise of an old Super-8 cine camera, which can actually be quite charming! When sampled separately, the sound quality is much better.

If you prefer, you can make use of any sound sampling cartridge that you already have. Most types will be supported, and can make a big improvement.

The third and biggest catch is that moving video and sound take up an incredible amount of RAM. Each digitised frame takes 8K, with typically another 1K for the sound. On a 1Mb Amiga, that means that about 60 frames can be stored – which at 12 frames a second is about 5 seconds of video.

Even worse, storing sequences on floppy disk can be a nightmare, as you won't be able to store much more than 70 frames per disk.

It seems unfair to start moaning about memory, as it isn't the fault of Microdeal. It's a fact of life that storing moving pictures uses memory like it's going out of fashion, and until someone crams some MPEG chips in a box for us, that's the way it will stay.

PICK A CARD

The software which comes with VideoMaster is a very slick piece of work. It comes with a non-Intuition front end which, for the first time that I can remem-

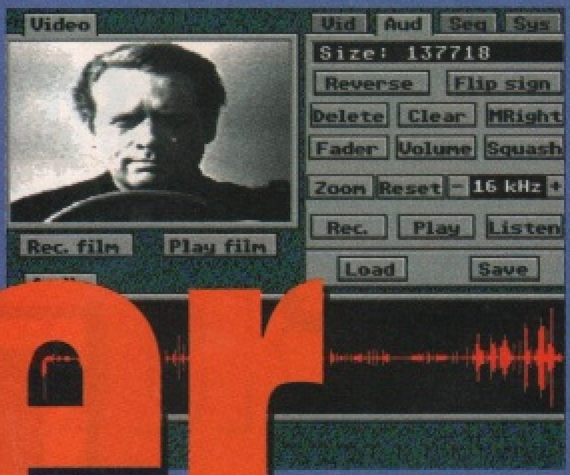
EXTRAS

Making clever use of the existing hardware, VideoMaster can act as a stand-alone video and sound digitiser. By using the coloured filters supplied, full-colour HAM images can be digitised at low and high resolutions with or without interlace, in a very similar way to Rombo's old VIDI. However, unlike VIDI, VideoMaster can also digitise sound, because it is also a sampler.

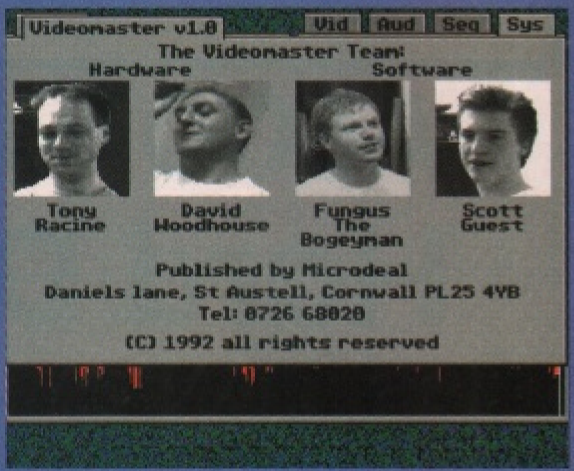
Speaking of VIDI, a separate program entitled 'Vidiplay' is supplied with VideoMaster. This program is freely distributable and is intended to permit you to share your home video production with other Amiga users. In an attempt to jazz up what would be a rather dreary video, various options are available when it comes to the format the display screen may take.

Multiple images, full screen sized displays and weird combinations of both may be used to make the video more interesting. Any IFF picture may also be used to act as a background for the animations, an effect which Microdeal – rather grandly I thought – have called 'picture in picture'.

aster



The Audio Card comes complete with many tools for processing the sound. Fade it, boost it, squash it and flip the soundtrack to perfection.



The people who made it possible. Thanks guys.



The playback program can brighten up your film by adding a full-sized backdrop, as well as various other Top of the Pops-type effects.



The Sequencer Card allows short video sequences to be combined in a visual equivalent of *MED*.



The video editing card allows individual frames to be added, deleted and re-ordered.

ber, is actually easy to use. Instead of menus, you navigate through the system by selecting different 'cards' – there is a card each for video, audio, sequencing and system configuration. Once the card is to the front, various gadgets are available to provide the editing and file options.

To the left of the screen is a video monitor, which can be used to watch your film, or keep an eye on the current video source. Similarly, the lower part of the screen contains the sound monitoring window. Users of Microdeal's samplers will feel at home with the dual-marker system.

With a suitable video source connected, one click on the 'Record Film' gadget will start piling that video and audio data directly into memory.

This process will continue until either you press the stop button, or you run out of memory – no prizes for guessing which happens most often.

If you wish, you can use the video and audio cards to digitise data separately – so, for example, if you wanted to add a musical soundtrack to a four frames a second video sequence, you would grab the pictures first and then connect the sound source and select sample from the audio card. By cutting and pasting frames from the video edit screen, or editing the sound data you can then sync everything together and save out your final film.

VideoMaster allows these films to be sequenced, that is given an order in which to perform. The sequencer is rather like a single-track video version of *MED*, and can control the speed of the individual clips as they are played back. Some very impressive 'scratch video' effects can be created, and given enough memory it would certainly be possible to make quite a complicated music video.

WHERE THEY WENT WRONG

Microdeal have committed the worst possible offence in my eyes in that the VideoMaster hardware does not provide a through port for any other peripherals which may be required, such as hard drives. With a package that can easily generate data of several megabytes in only a few seconds, a hard drive is almost an essential requirement. It's no good the manual saying you should try and find a third party adapter somewhere, Microdeal should either have designed one into the system or made an adapter easily available.

Another point which should have been caught – the software is supplied on disks which don't work when booted with Workbench 2 machines. Hopefully this bug will be fixed.

The hardware has very little to fault it. OK, so the sampling quality isn't quite as good as a decent dedicated sampler, but it's not far off. I would like to know why some external sampling cartridges cause the video to jitter slightly, though. Also, some noise can occasionally creep into the video digitising process, giving unfortunate subjects a sprinkling of green zits, but this may have been a fault of my particular set-up.

If Microdeal are still speaking to me, I'd like to suggest that they enhance the playback program to include ARexx support. If ARexx was added and also combined with a method of choosing the Amiga screen upon which the animation was displayed, some serious multimedia applications would be possible. At the moment, although flexible, the Vidiplay program isn't as good as it could be. I'd also like to see some method of producing standard ANIM files from VideoMaster's film and video clip file standards.

I don't want to leave you with a bad impression of VideoMaster, for it certainly achieves what it sets out to do. It has definitely been the most fun add-on I have yet seen for the Amiga.

CONCLUSION

For the would-be multimedia programmer who wants a quick way of producing an animation to rival CDXL, VideoMaster is close – but no cigar. Since there is no profession for disk cache, the entire animation must be in memory at once: quite a handicap. However, if the software were to be improved, and a version of the hardware come out on a Zorro card, VideoMaster would suddenly appeal to even professional multimedia-ists.

For the home experimenter, VideoMaster will be great fun. The chance to play with 25 frames per second animation, as well as a full colour images and sampled sound cannot be overlooked. In this case, the whole is much greater than the sum of the parts.

The main market for VideoMaster must be the demo writing fraternity, for there is no doubt that demo coders are going to flip their lids when they see VideoMaster. Almost immediately you can expect to see PD disks appearing with soundtracked animations lifted directly from video. If this is your thing, you'll love VideoMaster and can expect to make a good demo within an hour or two of first running the program.

VIDEOMASTER

...at a glance

* Sound and Video digitiser in one box * Grab video and sound at up to 25 frames per second * Eats memory! * No through port for hard drive

Address: Microdeal, PO Box 68, St Austell, Cornwall, PL25 4YB. Telephone: 0726 68020.

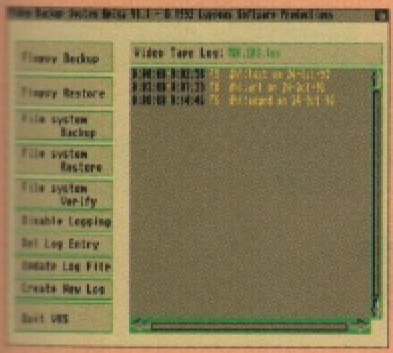
MICRODEAL £69.95

'The impossible has happened on the A500...'

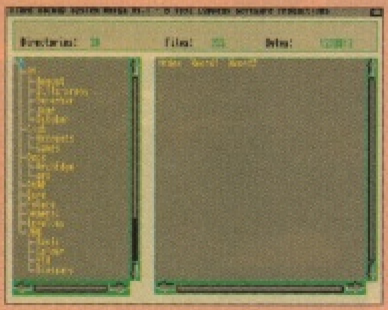
EASE OF USE	85%
VALUE FOR MONEY	80%
EFFECTIVENESS	83%
FLEXIBILITY	70%
INNOVATION	92%
OVERALL	**82%**

If you think that a video recorder can only be used to tape last night's edition of EastEnders, not only are you a sad individual for watching that rubbish, you're also wrong. David J. R. Ward puts his to a better use...

Video Backup System



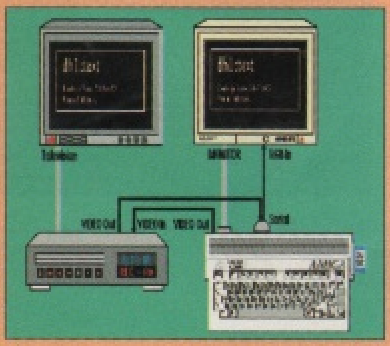
No pull-down menus, VBS is initially controlled via a point 'n click interface.



Once the directory structure of the hard disk has been scanned-in, the whole tree, or just selected files, can be backed up.



Prior to each back-up a visual header is saved to the videotape for quick reference during picture search.



Once the system is set up, you can monitor output on either your TV or monitor.

Data is saved as a barcode pattern of images.

TOO EXPENSIVE?

How many of you have back-up copies of your floppy disks? Not many I fear – too expensive you see. At 50 pence per disk, a 100 disk collection would need another 100 disks, or 50 quid of back-up. And then there's the question of storage space. After all, there's only so much room under the bed.

What would you say to a system that allows you to save up to 160Mb for under a fiver! And that goes for hard disk users, too. The system I'm referring to has been available abroad for some time, but it is now here in the U.K. at an affordable price. I am referring, of course, to the Video Backup System from White Knight Technology.

Business computer users have been well catered for with 'cheap' back-up mass storage options – tape streamers, optical disk drives, and so on. Well, fairly cheap. An average tape streamer for a PC costs well over £200, with the cartridges at roughly £20 for an 80Mb capacity. While most businessmen can afford the initial equipment and then the running costs, your average Amiga-user is not in the same position. A similar set-up for the home Amiga-user could cost twice as much.

I am fairly certain that nearly every Amiga owner has access to a video recorder. So, why waste that expensive tape machine purely on Coronation Street, when it could be put to better use. This is where the Video Backup System (VBS) comes in. For £65 you can turn your VHS, Beta, or V2000 into a tape streamer.

TALKING SHOP

Put simply, VBS outputs a screenful of violently vibrating vertical barcodes. These black and white stripes contain the binary information that the data on your disks is made up from. The images are saved to video tape complete with headers, for identification, and directory tree structures.

VBS consists of a plug with two leads dangling from it, another lead, a disk, and the manual. Each lead is terminated in a standard phono plug that will connect to most video recorders. If your machine is equipped with only a SCART socket, or BNC sockets, then you will need appropriate adaptors. The lone lead connects the monochrome video output on the back of the Amiga, or the composite RGB on an A600, to the 'video in' socket on the recorder. The plug is connected to the serial (RS232) port on the Amiga, with one lead going to the 'video out' socket on the recorder, and the other going, optionally, to the composite RGB input on a monitor. Under the hood of the serial plug is a small circuit board that converts the output of the video into binary data for restoring to disk. But first you must give it something to convert.

The menu driven software allows you to back-up individual files, or entire partitions from your hard disk. Floppy users can do the same for their disks, with a multiple option so that users with more than one drive are not interrupted to pause the tape.

Once the files, or disks, have been selected you are asked to enter the start position of the tape. This is entered in the H:MM:SS (Hours:Minutes: Seconds) format. Those of you with machines that have a tape counter, or tape remaining indicator, need to make hand written notes, as VBS records the time taken for the back-up and saves it to a log and report file. These can later be edited in a word processor to match your notes.

CONCLUSION

VBS is fairly reliable. By that I mean that any errors are normally caused at the video end of the system. To reduce any chance of these problems occurring it is wise to use branded high grade video tape. Don't expect good results from a 'four for a fiver' pack bought from the local market.

Noisy mains can also be a source of problems, so try to avoid doing your back-ups whenever a hairdryer, washing machine, vacuum cleaner, or electric drill is being used. Other than that there should be no problems. The VBS software allows verification of the data on tape to that on the disk. So you can restore in confidence at a later date. At roughly one hour to save 40Mb it might be an idea to save the same data again for safety sake. It is unlikely that an error will occur in the same place in both back-ups. Bad files are ignored during a restore.

Restoration can be in its entirety or just selected files. VBS searches the video tape then restores the chosen data. Tape use works out at tuppence ha'penny (new pence) a Mb, and the initial cost compares favourably to that of a couple of games or an external floppy drive.

VBS

...at a glance

• Easy set-up • Automatic installation program • Simple to use • Cost effective • Cheap to run Video Backup System

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How do you win? It's funny you should ask, as I was just about to explain. I'm sure you've heard people say (when talking about probability and that kind of thing) that if you had a room full of monkeys hammering away at typewriters for infinity, sooner or later they would recreate the works of William Shakespeare. Well, a similar method is employed here at CU (at least with regard to the monkeys). One of them, whilst doodling on his word processor, left the arrangement of letters shown below.

P	R	E	D
A	M	S	I
D	Y	O	B
T	E	N	S

What we want you to do is find, concealed within this grid, as many different words as possible, of three letters in length, or longer. We don't just want words written horizontally and vertically, mind you! We want as many words as may be spelled by connecting adjacent letters, whether that means looking up, down, or diagonally. The word MOBS, for example, may be found by linking the letter M in the second column to the diagonally-adjacent O in the third column, then horizontally across to B in the last column, before either going down to the S in the bottom right corner, or diagonally up to the S in the third column. Is that clear? I hope so.

• Each letter displayed may be used only once per word – letters which appear on the grid twice may be used twice, but only if they are adjacent to the appropriate letters, as explained earlier.

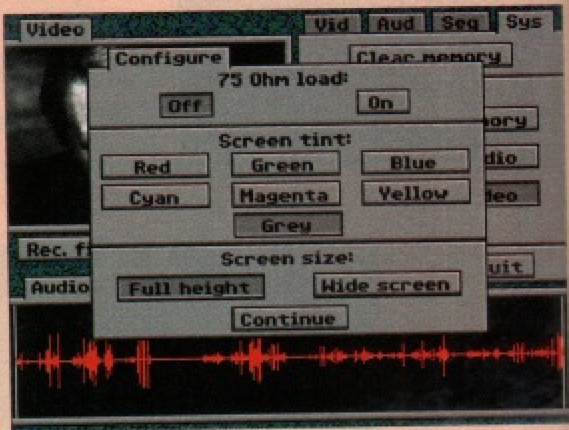
• Only words currently in use in the English language count. Plurals are acceptable, but abbreviations, names, and hyphenated words are not. Technical jargon doesn't count either, unless it can be found in the CU dictionary.

The 25 entries with the largest number of words from the grid will each receive a Smith's discount voucher.

To compete, put your name, address and the number of words you've found, on the form below. Send it, together with a list of the words you've grabbed from the grid (printed in capitals, please) to: Great Video Giveaway, CU Amiga, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Only one entry per person, to be received by 10th March 1993.





GREAT VIDEO GIVEAWAY

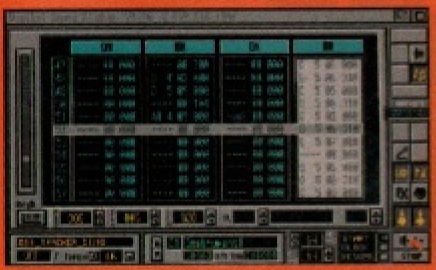
NAME:..

ADDRESS:..

....

I FOUND ....WORDS IN THE GRID

(DON'T FORGET TO INCLUDE YOUR LIST OF WORDS!)



DSS 8 has a cut-down *Soundtracker* built in to the main program. It's quite simplistic, but it all helps the flow of the creative juices.



Up to 31 different samples can be resident at once. These can be used in the tracker or modified using the editor.



Here's the main sample screen, where all the cut and paste operations take place.

One of the more attractive options for monitoring your incoming signal is the spectrum analyser, which gives a frequency bar-chart



...and here's the effect – a combined reverb and echo. You can use this on both recorded samples and incoming sounds in real time.



If you're sampling from vinyl, you may well end up with a few clicks from scratches in your records. These can be removed with the freehand draw mode.



DIGITAL SOUND STUDIO 8

How many ways are there to rewrite the word 'sample'? Tony Horgan struggles with his synonyms and reviews the latest sampler.

SOUNDING OFF

They're breeding like rabbits! So it seems anyway. New sampler packages are popping up from all over the place, and trying to sort out the best buy is getting pretty tricky. GVP's Digital Sound Studio 8 (DSS8) is the latest addition to the family.

DSS8 comes as a hardware and software combination. The hardware is a small cartridge (about two and half inches deep) which plugs into the parallel port at the back of the Amiga. On the back of the cartridge is a pair of stereo phono sockets. You also get a mini-jack-to-phono convertor plug. Standard stuff then, so it's down to the software to decide whether DSS8 sinks or swims.

Boot up the software and you'll probably want to load up some demo samples for starters. There's only one included for loading directly into the sampler section: a jazzy piano piece that isn't looped too well. Wouldn't you think the people who make the sampler would be capable of including a clear, useful example? Oh well, better get sampling some of your own stuff pronto.

OSCILLATOR ACTION

Selecting the sample rate (which will define the reproduction quality and the size of the sample) is easily done by moving the slider at the side of the screen, or entering a value into either the rate or period boxes. Use one of the various oscilloscopes to get your input volume just right, and hit the RECORD button to start sampling. If you can't seem to get an acceptable input level, you can use the software's gain controls. These can be switched between line and microphone levels, and then finely adjusted with a couple of little sliders. If you seem to have a lot of excess background noise over your incoming sound, try using the software's low-pass filter. This is unconnected to the Amiga's hardware low-pass filter, and takes out the hiss before the sound is sampled. It's handy for bass sounds in particular, especially as the software seems to create a fair bit of noise of its own, even if you don't have anything connected to the sampler cartridge.

LENGTHY SAMPLES

So you've started sampling, and the screen has gone blank. If you've chosen a generous rate of 19886Hz, the software could go on sampling for up to a few minutes on well-expanded machines, or about 35 seconds on a 1Mb Amiga, unless you step in and stop recording by clicking the mouse. Like AudioMaster, DSS8 samples into both fast and chip memory, and as a result it can grab some enormous sounds. One advantage of this should be that you could record a large section of sound, and then save out various pieces of it for later use. Due to the method it uses for selecting areas of a sample, it's almost impossible to pick out loops precisely without using the cut function to chop everything away from either side of the required section. You can copy selected areas and save those out as IFF samples, but you'll almost certainly have to load them back in for trimming later. A simple feature to let you individually extend the extremities of the selected range would have done the job.

BLEAK EFFECTS

It's a bit bleak on the effects front. You could reasonably expect a sampler of this price to include at least a phaser or flanger, especially as this would only mean altering the existing mix function slightly. All you get is a variable reverb/echo effect, which is far from the best I've heard on the Amiga, and a reverse function. These are applied to the sample, but you can also use the reverb and echo on live incoming sounds. Compared to the chorus, phaser, pitch-shifter, real time sound reversal and stereo panning features offered by the likes of Stereo Master, etc. DSS8 looks pretty tame.

When it comes to sound quality, DSS8 is adequate, but plagued by a hiss that seems to be generated by the software rather than the hardware. Using the cartridge with other software, I got cleaner results than with DSS8.

One advantage it has over a lot of its rivals is the built-in tracker. It's a cut-down edition of *Soundtracker*, which isn't capable of much, but is handy if you want to try out a few samples immediately.

CONCLUSION

It's easy to get carried away comparing its every feature to another package that performs better in that particular area, and gloss-over what it does well. For example, although it can't compete with StereoMaster or Megamix Master on the effects side, it scores one over them by displaying the sample as a proper wave, instead of the vertical lines which fail to highlight distorted sound levels. At a penny under £50, it's a bit more expensive than the real budget samplers, and as a result looks a little overpriced, but it's still well worth taking a look at.

DIGITAL SOUND STUDIO

. . . at a glance

• 8-bit stereo sampler • Samples into Chip and Fast RAM • Built-in tracker sequencer • Accepts MIDI input • Average sound quality • Rather awkward editing • Few effects

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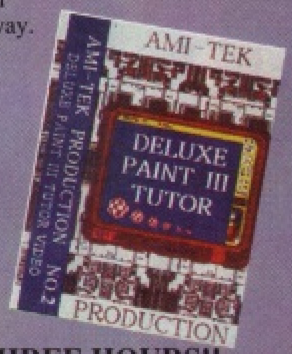
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COMMODORE ATARI CITIZEN STAR AMSTRAD CUMANA PHILIPS GOLDEN IMAGE NAKSHA ABACUS SEGA DIGITA

Oh no, more video digitisers? John Kennedy tells you why this one should get you excited.

VLAB

A high resolution interlaced picture – this time in 16 colours. VLAB's advanced dithering provides excellent results.





A low resolution, 24-bit image grabbed off video tape. Although video tape is not noted for it's high quality images, VLAB can still extract some amazing pictures from it.

BIG BOYS ONLY

VLAB first made an appearance in the pages of CU back in the heady days of the July 1992 issue, and then only as an add-in card for 1500, 2000 and 3000 owners.

Since then the Amiga 4000 has been launched, thus providing one more computer that VLAB will work with – but what about all the thousands of Amiga users who lack expansion slots? Is the huge market provided by those 500, 600 and 1200 owners going to miss out on what our Technical Editor described as 'quite easily one of the best digitisers'?

The answer to that rhetorical question is quite obviously 'no', for those most excellent Europeans at Macrosystems have brought out a version which connects to any Amiga via the parallel port.

SO WHAT?

What makes VLAB so special is the fact that it's brilliant. The pictures are brilliant, the software is brilliant and I'm sure the manual is brilliant too, if only I could read German.

I suppose I should have kept that paragraph until the end of the review to maintain some sort of mystery, but it's no good – you'll just to have to hold your breath to add your own element of excitement. VLAB is very good, and there is no escaping it.

Externally VLAB looks very disappointing – it's a long slab of powder-coated beige steel with some sockets, an on-off switch and a reassuring little red light. Also, in the cardboard box is a very beefy looking mains adapter with a Euro-plug attached, so it's time to dig out that old shaver adapter. The last thing in the box is a lead to connect VLAB to the Amiga – not. Hopefully Amiga Centre Scotland, the main UK distributor, will see fit to include one in the future. Luckily, it gave me an excuse to make use of an old disk drive cable, which might have remained in some dank vortex otherwise.

The driving software which comes with this version of VLAB has changed very little from the original Zorro-only version. It's still an Intuition user's dream, with windows, menus and gadgets a-plenty. To give you some idea of its user-friendliness, there are actually three ways of achieving most tasks. You can either select a pull-down menu, or open and use a tiny window or else type in the command from a custom shell which can be opened. Amazing!

The software is so good that reference to the manual is unnecessary, which is a good thing unless you can read German. Over 140 pages packed with examples looks very good, unfortunately the English instructions provided by ACS are quite laughable, consisting of a single sheet of A4 and very little in the way of facts.

ACTION!

Any form of composite video source can be used, as long as the connecting lead ends with an RCA type plug. If your video recorder has a SCART socket, you'll need to pop in to your local Tandy dealer for a lead. Most camcorders seem to come with both SCART and RCA these days, so you probably won't need a special lead for one.

VLAB has two (unlabelled) video inputs, so just pick one and plug in the video. If you have opened a monitor screen on VLAB's main screen you should be watching a grey-scale image, updated at about one to eight frames a second depending on the size and number of colours used. When the monitor shows the image you want, just select the 'scan' option. After a second or so you can see a quick preview of the image – either in colour or black and white.

When you think you have captured the image you want, a more precise calculation can be performed to produce the final image. VLAB supports lots of image formats (see TABLE 1), and although the AGA modes are presently not yet supported, by using 24-bit files and a program such as ASDG's *AdPro*, you can be sure that no details will be lost. A software module which will allow ASDG fans to grab directly into *AdPro's* frame buffer is promised soon, and will be worth waiting for.

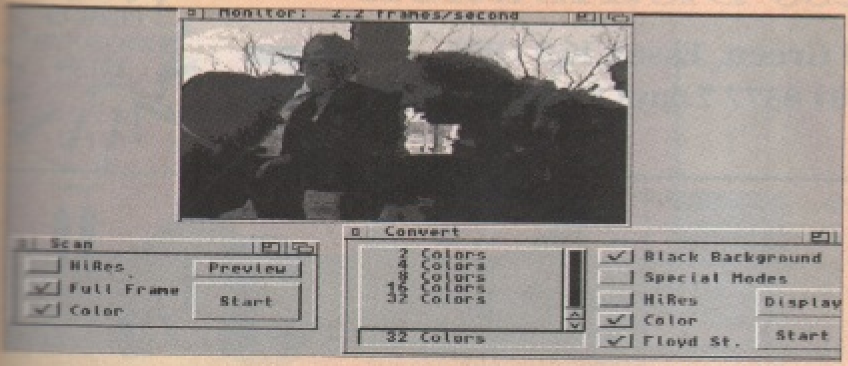
To preserve most detail in a digitised image, you can save the raw YUV data out directly to disk. Although this file can not be directly viewed without some processing by VLAB, it's pos-

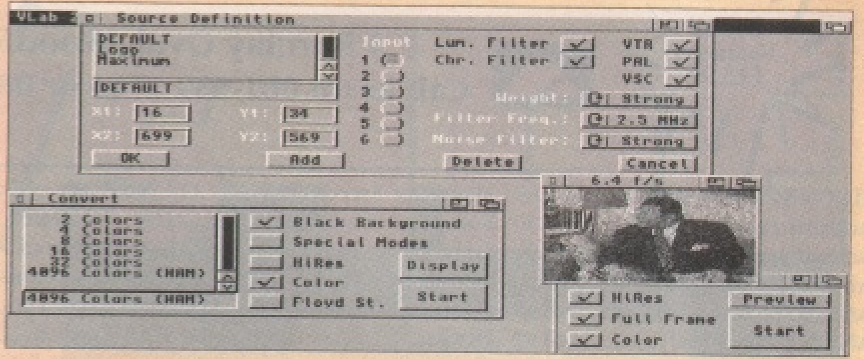
TABLE 1

Graphics Modes

Mode	Typical Size (bytes)
Raw YUV data	366754
24 Bit ILBM	486852
HAM	125146
32 colour	74198
16 colour	58096
8 colour	39050
4 colour	22778
2 colour	10054

Various monochrome modes are also supported.





Top left: VLAB at work, about to grab a picture. The monitor display keeps you up to date on what the video source is doing. **Top right**: A typical VLAB control screen. The monitor is providing a liveupdate on the input signal, the filters are available to fine-tune theimage to perfection.



A high resolution, interlaced picture grabbed from a live television transmission. This sort of resolution is pushing the quality of PAL to the limits.

HOW IT WORKS

VLAB works differently from most video digitisers in that it makes use of the YUV colour space – the transmission standard used by all PAL video systems.

The PAL video system exploits the fact that the human eye is more sensitive to brightness detail than colour detail. Therefore, it makes sense to pack as much information into the brightness part of the signal at the expense of the colour part. The system chosen to implement this technique is called 'YUV' (for NTSC systems it's called 'YIQ').

The Y part of the YUV signal is called 'Luminance', and it contains the brightness information. It is formed by performing a weighted sum of the Red, Green and Blue components. The remaining two parts of the signal, 'U' and 'V', contain a combination of the colour information and some of the luminance.

This method of signal encoding has two advantages. Firstly, the Y luminance signal can be used by black and white televisions. Monochrome receivers can simply discard the extra U and V parts of the signal to obtain a high resolution image with minimum fuss. This was especially important when colour television was first introduced, as obviously everybody still owned black and white sets.

Secondly, there is no need to treat each component with equal resolution. The standard for digital PAL video states that the luminance component should have eight bits of information, and the remaining U and V components four a piece. Thus a PAL TV signal, and so any picture digitised from it, will contain approximately 16 bits per pixel.

VLAB works by directly digitising the YUV signal, and then performing calculations to extract the video information. As VLAB grabs an entire colour video frame at once, there is no need to take three different samples for each of the red, green and blue components.

sible to batch-process the files at a later date. This is especially useful when used in conjunction with the 'Sequence' option, which will capture and store as many images as you want. If you cut down on colours a fairly respectable frame rate can be achieved.

FILTER

For optimum results, there are some extremely intelligent source definition options. The width, height and type of the video signal can be defined, as well as any noise filters your image may require. As always, the best results are achieved by trying every possible combination of options, but once you have them set they can be saved to form a brand new source type. Every subsequent time you load VLAB, the new video source is available as an option. Indeed, when you leave VLAB, the current state of play of the entire system, which windows are opened, how large they are, where they are positioned and so on, is saved. This means VLAB soon becomes YOUR program, set up just the way you like it. And, of course, you can switch this option off if you require! The joys of a well written program...

If you like experimenting, either with hardware or software, you'll love VLAB. The extensive ARexx support means that you can write your own programs to make extensive use of the digitising hardware – you can even switch off the main VLAB screen if it gets in your way.

The hardware options offered by the dual video inputs are also very flexible. Either input can be selected from software, so for example, you could quite easily create a multi-camera closed-circuit system for monitoring, capturing and spooling frames to disk for later analysis. Or even create a 3D capturing system for a robot, by using the visual equivalent of stereo sound and mounting two cameras about three inches apart.

SPEED

As this version of VLAB uses the parallel port instead of an internal Zorro slot, some degradation in speed can only be expected. However, I have to say that with the SSL5000 accelerator (a 16MHz 68020) fitted to my Amiga, I had no gripes about speed at all. The longest process was the 24-bit save to disk, which took about 30 seconds for a compressed image. Previewing and creating images is a great deal quicker, and never became a chore. Presumably using the extra fast parallel ports supplied with some accelerator cards would speed the process up even more. On my system VLAB was fast enough to keep an eye on the TV by opening the monitor window on the Workbench and connecting a video-recorder. Who says you need an expensive GVP card for picture-in-picture video!

CONCLUSION

If you have an Amiga, any Amiga, you should think about getting this digitiser. Not only is it tremendous fun, but anyone who dabbles with Desktop Publishing or any form of video work will soon get their money's worth from it. That fact that you can be sure it will work with your current Amiga and any better system you buy in the future makes it the essential high quality digitiser.

VLAB PAR

...at a glance

• Works on any Amiga • 24-bit IFF output, as well as all standard Amiga modes • Single frame grabbing • Needs WB2 and at least 3Mb of RAM • Link to *AdPro* coming soon.

Address: Amiga Centre Scotland, Harlequin House, Walkerburn, Peeblesshire, Scotland EH43 6AZ. Telephone: 089 687 583.

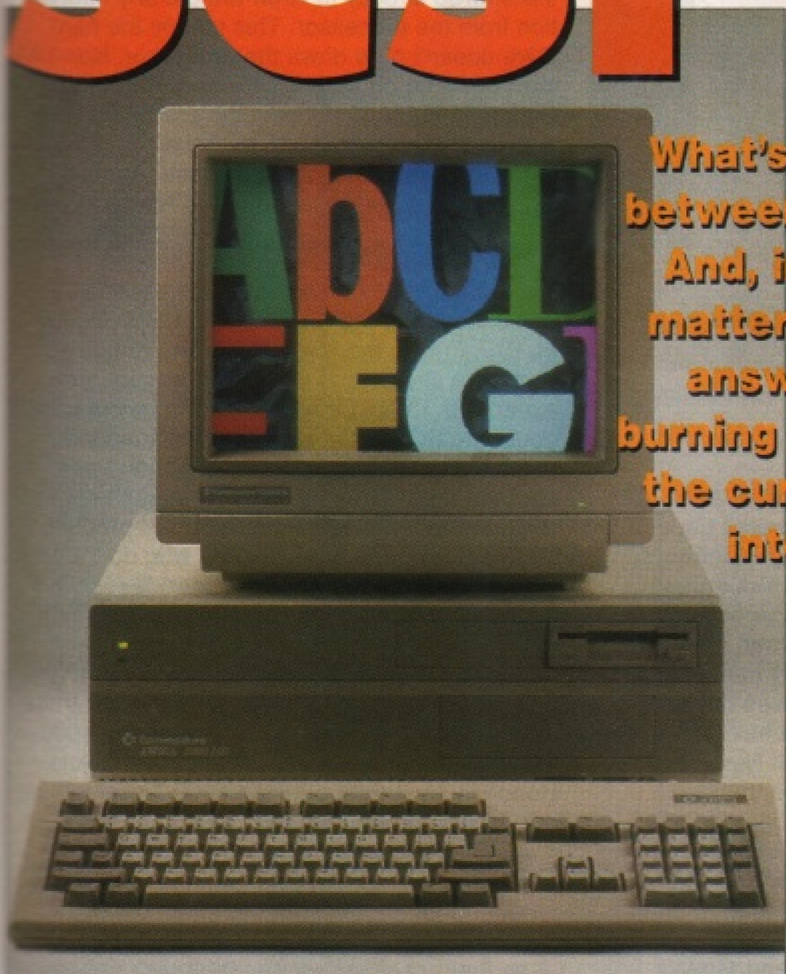
ACS £381.87

'Now everyone can own the best colour digitiser.'

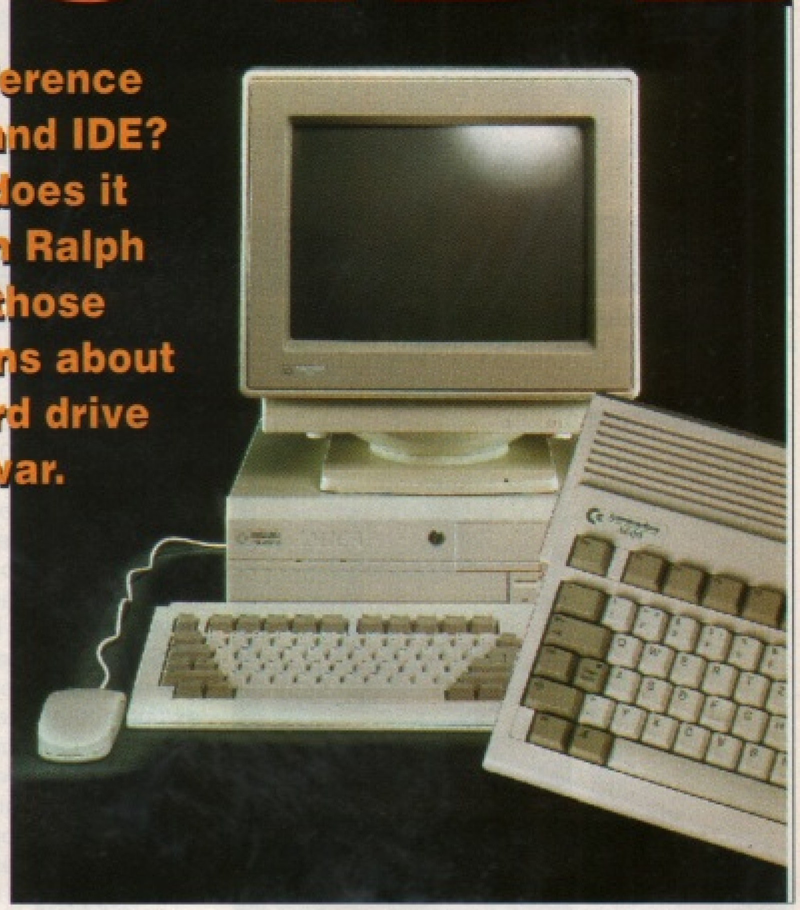
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INNOVATION	95%
OVERALL	**93%**

SCSI vs IDE

What's the difference between SCSI and IDE? And, indeed, does it matter? Jolyon Ralph answers all those burning questions about the current hard drive interface war.



The A2000 drives were SCSI, as were those on the A3000. They may be a bit more expensive than IDE, but the increase in speed is worth it, especially if you are intending to run lengthy animations or sound samples which must come direct from disk.



The Amiga 4000 was disappointing in some respects. Not only did it have no DSP, but CBM chose an IDE interface for the hard drive. Some have claimed that this negates the speed-up provided by the new Motorola 68040 processor.

THE CASE FOR IDE

IDE stands for Integrated Drive Electronics. Original PC hard disks had a separate controller card with most of the clever electronics connected by two data cables to a hard disk that was rather simple in operation. This meant that setting up drives was a dificult task, resulting in much messing around with cylinder, blocks, tracks and interleave settings. This was not fun.

Western Digital, a major hard drive and controller manufacturer decided to simplify the process by integrating the majority of the complex controller card components onto the drive itself. Two varieties of IDE were formed: XT-IDE (which was based on their 8-bit XT MFM controller) and AT-IDE (based on their 16-bit AT MFM controller).

XT-IDE has all but disappeared from the PC world now, being replaced by AT-IDE and SCSI. XT-IDE did make an appearance into the Amiga world with the Commodore A590, which was originally shipped with a 20Mb XT-IDE hard disk (although this was eventually replaced by a faster SCSI drive).

AT-IDE is now the standard PC hard drive interface. It only requires a handful of cheap components to add an IDE interface to a standard PC motherboard. As it is primarily a PC standard it requires a little more work to link to an Amiga, but it is still cheaper to add than SCSI to the Amiga.

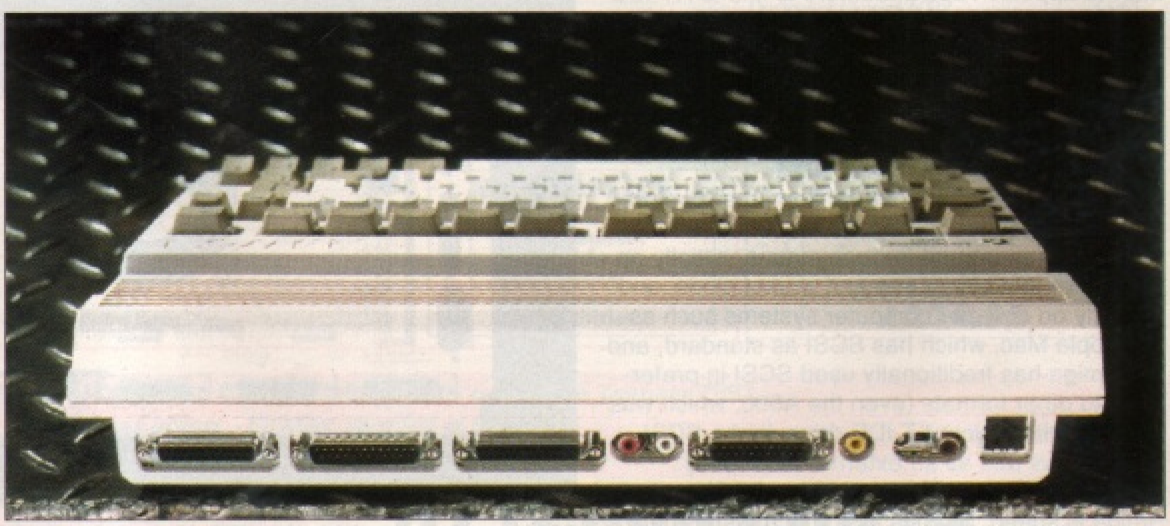
The main advantage of IDE is availability and price of drives. With AT-IDE, a 40Mb drive can be bought for around £150 – £200 and there are plenty of drives to choose from. SCSI drive manufacturers have recently cut back production of

WHY DID THEY DO IT?

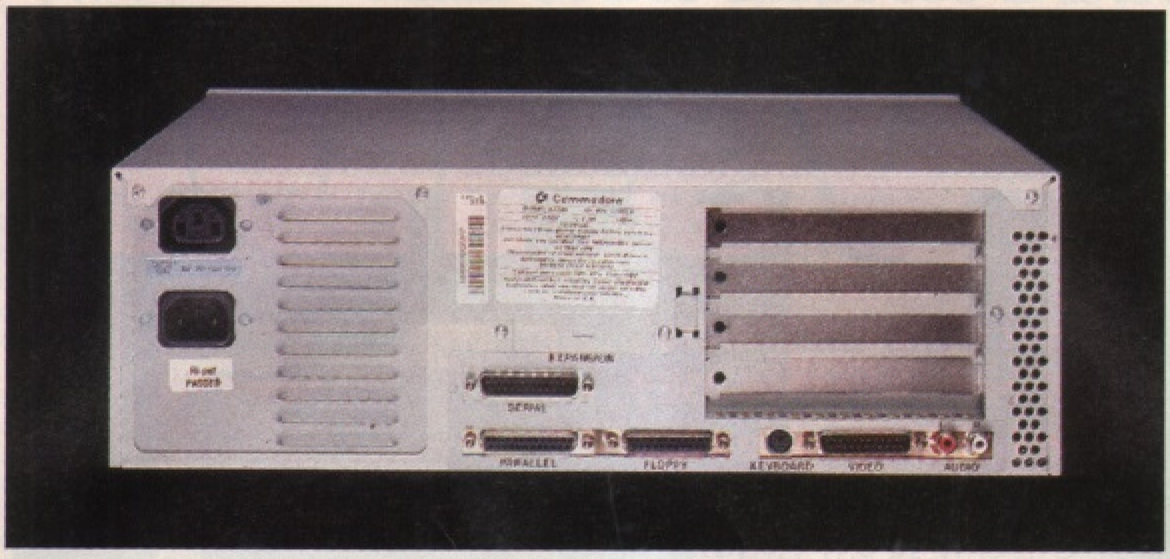
When the new Amiga 4000 was announced to the world nearly two months ago, the public went 'wow' at seeing the first total redesign of the Amiga chipset since 1985 and the new graphics modes it allowed. But to developers, who had known about the new chips for over a year, the Amiga 4000 came somewhat as a disappointment.

One of the main reasons for complaint was the lack of any improvement to the sound output. While developers were hoping for a machine with DSP (Digital Signal Processor) 16-bit better-than-CD quality sound, all we got was the same old 8-bit Paula that was in the original Amiga 1000. We shouldn't be too upset though, the 4-channel Paula can still give us sound quality that makes most PC soundcards sound tinny and artificial by comparison.

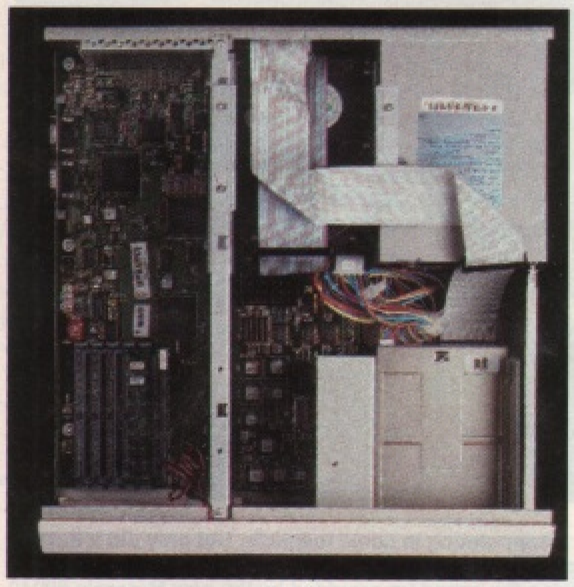
However, the main gripe about the Amiga 4000 was the choice of the IDE hard disk interface instead of the SCSI interface that was present on the Amiga 3000. Why did Commodore choose the IDE interface in preference to SCSI?



An IDE drive makes more sense on a machine like the A600, but power users will be disappointed by the lack of speed and the lack of flexibility.



The IDE mechanism uses less power and is cheaper than a similar SCSI unit. They are also more widely available in small capacities (<100Mb).



There is evidence to suggest that much of the speed increase on the A4000 is negated by the slow speed of the drive.

low-capacity drives, it's now almost impossible to get a SCSI drive of less than 120Mb capacity (at around £300).

Small 2.5" IDE drives are now available, mainly for the portable computer market, these use far less power than their larger counterparts, and although 2.5" SCSI drives are available there are far less of these around, and they are more expensive.

Because of the popularity of AT-IDE on PCs it is inevitable that a wider variety of devices will start to appear. Tape streamers to link to AT-IDE are now available (although these will probably not work with the Amiga 4000), and removable cartridge drives (like the Syquest 44Mb cartridge drive) are also available.

THE CASE FOR SCSI

SCSI, which stands for Small Computer Systems Interface, is an international hard disk interface that has been around for many years, initially on expensive minicomputers and workstations, and recently on cheaper computer systems such as the Apple Mac, which has SCSI as standard, and the Amiga has traditionally used SCSI in preference to other formats (even the A590, which was shipped with a slow XT-IDE drive, had a SCSI interface as well as an external SCSI port).

The most important thing about SCSI on the Amiga is speed. SCSI is fast, much faster than the equivalent IDE unit. Several applications we tested on the Amiga 4000 showed little speed difference from running on the Amiga 3000. With the 25MHz 68040 processor we would have expected between two and five times improved performance. The slow IDE hard disk unit negated any benefits of the faster processor.

SCSI is far more expandable than IDE or any other drive interface. IDE can only handle two drives, SCSI can handle up to seven devices on a SCSI bus, and many devices can have more than one unit with different Logical Unit Numbers (for example there are CD Rom drives that can accept six CDs, but only require one SCSI ID place on the chain.

There are a much wider variety of devices available and supported for SCSI than IDE. As well as hard drives you can buy tape streamers, 21Mb floppy disk drives, 600Mb and 128Mb Magneto-Optical rewritable drives, CD-ROM drives, CD-WORM writable CD units, scanners and even fast PostScript printers that can be linked through one common interface. Small capacity SCSI drives are now hard to come by, but this is probably not a bad thing. I have over 1Gb (Gigabyte = 1000 Megabytes) of hard disk on my Amiga 3000 and I have run out of space several times. A decent Amiga set-up should have no less than 100Mb of hard drive space to be useful.

Unlike IDE on the Amiga 4000 and other machines, SCSI allows the simple connection of external devices in external cases via the external SCSI port. This allows use of large devices (like 5.25" full hide hard disks or Magneto-Optical drives) on machines where such devices would not normally fit.

Properly designed SCSI interfaces (such as the Amiga 3000 SCSI, Microbotics Hardframe and the Amiga A2091/A590 controllers) use DMA transfer. This means that data from the drive is transferred directly to RAM without any intervention from the processor. This means the hard drive doesn't slow down the processor. Non-DMA controllers (such as the IDE controller in the Amiga 4000) do slow down the processor when disk access is carried out, as the processor has to move all the data into RAM itself. Again this cuts back the performance of the Amiga 4000.

THE VERDICT

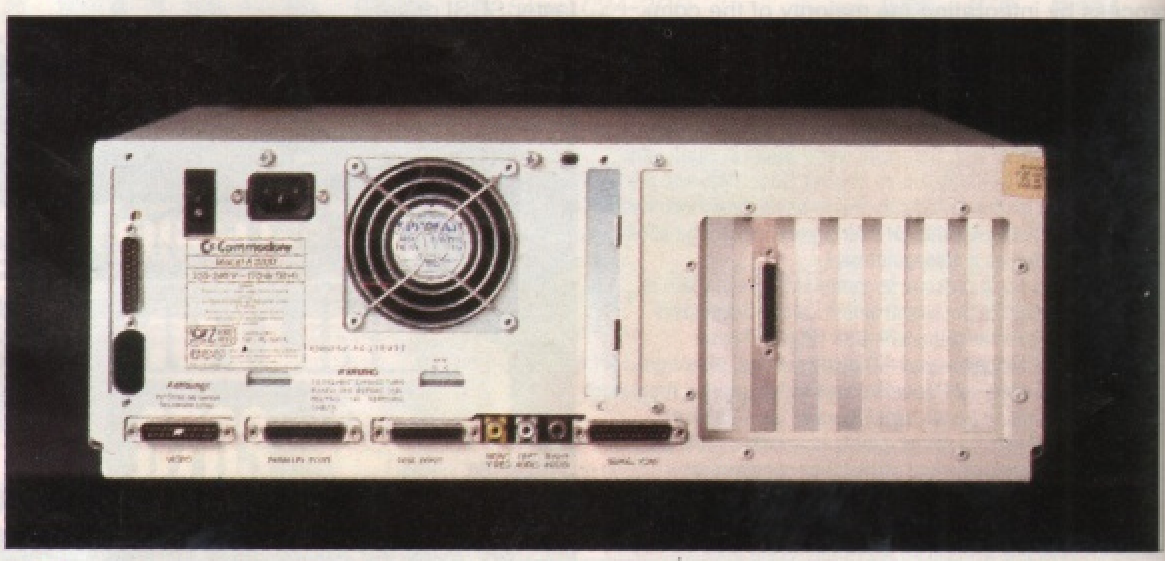
The Amiga 4000 should have come with SCSI. I can understand the reasons why CBM decided on IDE. Firstly, there was cost. The Amiga 4000 had to be cheap, and 68040 processors are expensive. Every other cost had to be cut back. I doubt the SCSI interface would have added much cost, but Commodore were concerned about availability of the 120Mb drives that they require. While several manufacturers produce 120Mb IDE drives there are few who do 120Mb SCSI drives, and only one (Maxtor) is readily available currently. Commodore could not afford to rely on one source for hard disks.

When Commodore release their SCSI II (the new SCSI standard which offers far faster transfer than SCSI 1) controller for the Amiga 4000, it will take up one of the precious Zorro III slots. Hopefully by then the Amiga 4000 Tower will be out, so losing one slot won't be such a problem.

CAVEAT EMPTOR

At the lower end of the scale there is not much difference in price between a SCSI drive and an IDE one, especially if you extrapolate the prices upwards. The choice is, of course, up to you. Commodore have made theirs, we disagree. Here are a few dealers who can supply you with whichever hard drive you decide on...

Silica Sytems 081 309 1111
First ComputerCentre 0532 319444
Almathera Systems 081 683 6418
Evesham Micros 0386 765500
Direct Computers 0782 311471
Gordon Harwood 0773 836781
Phoenix 0532 311932
Power Computing 0234 843388



SCSI is more expandable than IDE. Up to seven devices can be added on a SCSI chain, so if you want a Tape Streamer, hard drive and CD-ROM, SCSI is the only system to use.

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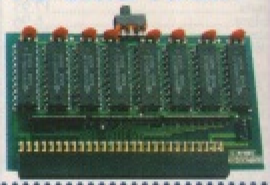
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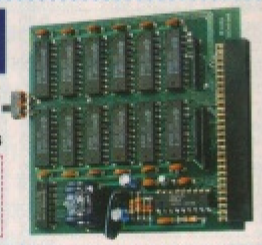


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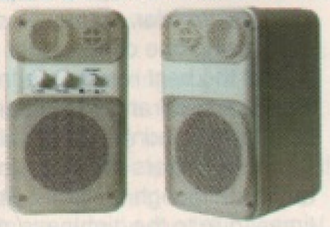
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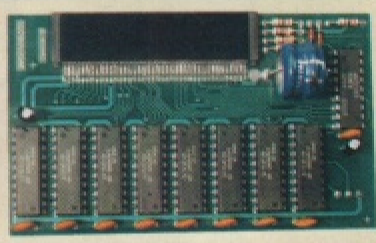
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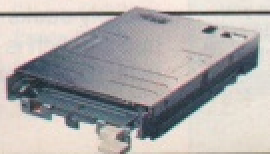
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Canon's bubble jet printers have proved to be extremely popular with Amiga owners, particularly the BJ-10 and BJ-20 models. Lately, other peripheral manufacturers have been stealing some of the show. Jeff Walker asks whether Canon's new baby will put it back in the limelight.



The BJ-200s top graphics resolution is 360 by 360 dots per inch, higher quality than the more expensive 300 dpi DeskJets and LaserJets.

CANON B





Using the *Canon Print Studio* graphics printing program you are able to alter the dither pattern for the dump, plus fiddle with the brightness, contrast and gamma settings to get a clearer printout.

THREE REASONS

There are three obvious reasons why bubble jets are liked so much: they produce sharp results, they are inexpensive compared to other high quality ink jet printers, and there are specific Amiga printer drivers for them.

But these low-end bubble jets are a bit slow, printing text at about 80 characters per second (cps) in high quality (HQ) mode, about 100 cps in high speed (HS) mode. Another drawback is that graphics printouts sometimes have a banded appearance – black or white horizontal lines every quarter of an inch or so, caused by every pass of the print head overlapping or underlapping the previous one slightly. The extent of the banding often depends on exactly what it is you are printing, but these are faults you can forgive, considering the low cost of the printers. But wouldn't it be nice if text printed faster and if there was no banding?

The BJ-200 is the latest in Canon's monochrome bubble jet range. Designed for desktop use, it weighs in at just over 6lb and measures a compact 13.7in wide, 7.6in deep, 6.8in high.

Sticking up at the rear of the printer is a cut sheet feeder that can take about 80 sheets. Ordinary A4 paper is fine, but the feeder is wide enough to take anything up to 9.5in wide, so envelopes can be fed through it as well, although the BJ-200 can only print a maximum of 8in across a page. The feeder works with paper from 64 to 90 gms, manually-fed individual sheets can be up to 105 gms.

Overhead projector transparencies can also be used, but you need to feed sheets of this through one at a time.

16-BIT POWER

The BJ-200 is the first of Canon's bubble jets to feature the new 16-bit processor and a control that actively seeks the next print position. The print head, which is part of the disposable ink cartridge (which lasts for about 1.4 million characters), has also been redesigned. These new features have resulted in much faster text printing and greater accuracy with graphics dumps.

In HS or 'draft' mode the BJ-200 can whizz along at 248 cps; in HQ mode it can do 173 cps. In real terms these figures mean that a page of 10 cpi (pica) text printed in HS will come out of the printer in about 20 seconds – or three pages a minute to put it another way. The same page in HQ mode will take about 30 seconds to print. Graphics dumps take longer – the speed these print at is largely governed by the size and complexity of the graphic, the speed of the printer driver, and the speed of the program doing the printing.

SUPER MACHINE

Something else that's new to the BJ-200 is SHQ mode – Super High Quality. This slows down the text output to 124 cps (about 40 seconds per page) and uses more ink, but the results are superb.

In HS and HQ modes graphics dumps are still slightly banded, although nowhere near as much as with earlier bubble jets. In SHQ mode, however, graphics banding is a thing of the past, even on ordinary 'bond' or photocopier paper. The results on proper ink jet paper are stunning, every bit as good as a laser printer, and in some cases arguably better.

Better results are obtained when a printing program is in control of the graphics dump, instead of Workbench Printer Preferences I mean, which tends to produce very dark and muddy prints, especially of digitised or scanned HAM pictures. Those same HAM pictures printed by *TurboPrint Professional*, for example, come out superb, especially using one of the larger dither patterns.

But the best results are from *Canon Print Studio*, a program written specifically for getting th best from Canon's bubble jets. The 'blue noise' (random) dithers produce almost photographic results, although there is a little banding sometimes, due to the 'tightness' of the dither pattern no doubt. If you do get some banding, the print can b



aborted and another dither pattern selected – Halftone or one of the Diagonal dithers usually works best.

Canon Print Studio doesn't come with the BJ-200, but you can get a version of it free from Canon on their Amiga Canon Drivers disk. It's not the full version, but it works, although you do need Workbench 2 (or greater). If you want the full version the documentation tells you where to get it from, and as it is 'registered shareware' it only costs £15. Well worth the money.

EXCELLENT EMULATIONS

The BJ-200 has two emulations – BJ-10 and Epson LQ. In BJ-10 mode there are two typefaces available, Prestige and Courier; in Epson mode there are eight: Roman, Sans Serif, Courier, Prestige, Script, Orator, Orator-S and Draft (this is basically the same set-up as the smaller BJ-20.). BJ-10 mode, using the Canon BJ-10 driver, is better for graphics printouts; Epson mode, using an Epson 24-pin driver, gives you more text flexibility.

A small control panel on the top of the printer enables you to select between HS, HQ and SHQ printing modes, as well as the normal Power, Online and LF/FF switches.

Typefaces and character sets are selected via dip switches which are positioned under a small cover to the left of the control panel. On the front of the printer is a cover or flap which pulls forward to allow you access to the ink cartridge. Embossed on the inside of this cover is a guide to dip switch settings for both BJ-10 and Epson modes. Without going anywhere near the manual I was able to set the switches various ways to get various results. It isn't difficult to do.

A tray to collect the paper coming out of the printer pulls out from underneath it. When pushed in, this tray is neatly flush with the front of the printer. Likewise, the sheet feeder is only about half the height of an A4 page, and a rest can pulled up from the feeder in order to support the full height of the paper.

The feeder also has a paper guide which slides left and right so that any width paper you put in (up to 9.5in) fits snugly.

CONCLUSION

Although the BJ-200's recommended retail price is more than £400, I'm sure you'll see it selling for just over £300. The trick is to shop around. Keep in mind that printers are not computer-specific, so it will be well worth investing in a current PC magazine to find a greater range of dealers.

THE COMPETITION

The BJ-200 has no competition at this price in the ink jet market. The nearest rival is probably the DeskJet 500 at £499 (RRP). The big question prospective bubble jet buyers will be asking themselves is whether it's worth splashing out about another £100 for the BJ-200, or to save their money and go for the smaller, portable, BJ-20 (which can be run off a Ni-Cad battery pack). The main differences are in speed and print quality. The BJ-200 is much faster at printing both text and graphics – pages of BJ-200 draft text come out at a maximum of three per minute, whereas the BJ-20 can manage only about one page per minute – and the BJ-200 also prints better on ordinary photocopier (bond) paper. The only other differences worth noting are that the BJ-200s input and download buffers are slightly bigger, and that the BJ-200s cut sheet feeder can hold about 30 more sheets than the one that comes with the BJ-20.

	BJ-20	BJ-200
RRP	£299	£399
Max Print speed	110 cps	248 cps
Max linefeed speed	180 ms	100 ms
Max text resolution	360 dp	360 dpi
Max gfx resolution	360 dpi	360 dpi
Built-in typefaces	8	8
Auto sheet feeder	50 sheets	80 sheets
Ink cartridge life	700,000 HQ chars	700,000 HQ chars
Input buffer	37k	49k
Download buffer	34k	40k
Noise level	45dB	40dB
Emulations	ProprinterX24e Canon BJ-130e Epson LQ-850	ProprinterX24e Canon BJ-10 Epson LQ-510



The larger the picture and the higher the output resolution, the longer a picture takes to print. But the results are always worth the wait.

With print qaulity as high as this picture there is no reason why the BJ-200 couldn't be used for a semi-professional newsletter. It could also be used for any small business operation where print quality is important but not vital.

CANON BJ 200

. . . at a glance

• Compact design • Works with the Canon BJ10 printer driver • 8 built-in typefaces • 248 cps text • 360 dpi graphics • Fabulous quality graphics printouts produced in SHQ mode with *Canon Print Studio* program • Long lasting ink cartridge (1.4 million characters in HS mode)

Address: The Canon BJ-200 costs £399 plus VAT, but you should be able to buy it much cheaper than this if you shop around. Phone Canon (UK) Ltd. free on 0800 252223 for more details.

CANON BJ-200 £468.83

'Compact, solidly built, fast, quiet, exceptional quality printouts.'

EASE OF USE	90%
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** Multi-user capability now increased to 46, with new rating system reflecting manager's ability and achievements.*
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** All 88 league referees included with true-to-life behaviour.*
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** Unique database-type search facility plus comprehensive data link giving access to additional, accurate, historical information on selected players. This feature may be further enhanced by the user himself.*
** More recording options: up to 36 matches always recorded IN FULL for instant full-scale replay, plus another 21290 match results and league positions going back 20 years, all instantly retrievable!*
** Intelligent behaviour of computer sides capable of changing tactics to respond to situation on the field or making substitutions based on fitness and fatigue.*
** Three levels of commentary, from highlights only to ball by ball reporting. Plus mid-week transfer and fitness news.*
** Friendlies, top scorers charts, precise transfer markets, club history, financial position and much much more!*

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U195 +AMIBASE-PRO II
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U331 + EXILE FONT
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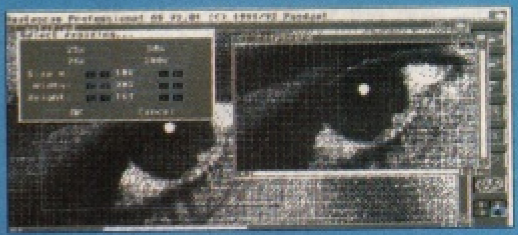
TEL: 0827 - 6849

What's small, oddly-shaped and fits in the palm of your hand? Calm down, it's only a scanner. Jeff Walker investigates.

DaataScan Pro 3.01


Sometimes scans come out too dark (left), but with the help of DaataScan's Lighten feature you can bring out the detail.


The Master Page gives you a reduced approximation of the image and makes it easy to drag out large Current Areas. After scanning your photograph the next job is to convert it to grey.


Any part of the image can be cut or copied to the clipboard, where it can be rotated, flipped or resized. The complex patterns produced by scans of photos don't reduce well.


In the greyscale editor you can lighten or darken the image, crop the part you are interested in, or have some fun with the drawing tools.


You can change the palette to create pseudo colour pictures. The Zoom levels can help with colouring in fiddly bits.

THE COMPETITION

The quality of the greyscales produced by DaataScan 3.01 easily equals those produced with the current versions of the two rival hand scanning systems, AlfaScan Plus and Power Scanner. All three scanners are constantly being enhanced and upgraded, so we can be sure of better things to come.

IT'S CHANGED

The DaataScan Professional screen has been rearranged slightly for this latest version of Pandaal's hand scanning system. The tool bar is now on the right of the display, and the Master Page no longer opens on startup. At the foot of the tool bar is an icon that enables you quickly to choose a scanning resolution from 100 to 400 dpi. The page size can be changed in the Settings requester – A4, A5 and A6 buttons are provided, or you can type exact measurements. The largest size allowed is 48in by 48in, which at 100 dpi requires almost 3Mb of memory.

The reason you set a page size is so that you can scan many images directly on to a single page, and subsequently save or print the whole thing. Scanning at 300 dpi, an A4 page requires about 1Mb. You may scan directly on to this page, in which case it will overwrite everything that is already there, or you can scan to the Current Area, which is a rectangular portion of the page you have marked by dragging out a box or by entering exact position and dimension figures into gadgets in the Master Page requester. Whatever you scan into the Current Area overwrites anything that is already on the page within the bounds of that Current Area. In this way you can create exact size pages with images in exact positions on the page.

WIDE IMAGES

The widest image you can scan is 4.13in, which is the width of the scanning head. The bigger you set the scanning area or page, and the higher the scanning resolution you choose, the more memory you need. If you don't have enough, DaataScan Professional will restrict your choice of size and resolution combination.

The big change to version 3.01 of the software is the Greyscale Editor. After converting a scan of a photograph or coloured illustration to 16 shades of grey, you are thrown directly into this new feature. As the black and white dither is converted to grey, the image in the Greyscale Editor is updated in real time. The left-hand portion of the editor contains your greyscale picture, while on the right is a tool bar that has some simple drawing tools and a colour selector.

The really fun stuff is in the Settings menu. In here is the Change Palette option, which puts up a requester that lets you change the shades of grey to any 16 colours you like. With the aid of the drawing tools and a little time and patience, it's quite easy to turn a 'boring' greyscale into a fairly pleasing colour picture. The drawing tools provided are Pencil (freehand), Line, Rectangle, Polygon and Ellipse — the shapes can be filled or unfilled. The Undo button in the tool bar comes in handy when you make gaffs, but it only undoes the last drawing function performed.

Ah yes, and there's a Text tool, something no other Amiga hand scanner software has. Any font in your FONTS: directory can be selected and typed directly on to the image, in any colour.

You can print your images directly from the Greyscale Editor. A print size of 100% is the default, and there are buttons for 25%, 50%, 75% and 200%.

CONCLUSION

DaataScan Professional has come on in leaps and bounds since the first version and now forms the basis of a seriously professional piece of software. I hope the developers continue to develop it, with particular reference to the new AA chipset, which means that images produced with this scanner head can now (in theory) be converted and displayed in 64 shades of grey.

DAATASCAN

...at a glance

- Uses as little memory as possible
- Maximum page size 48in by 48in
- 100-400 dpi resolutions
- Produces line art and 16 greyscale scans
- Built-in greyscale editor

Address: Pandaal International Ltd, Enterprise House, Old Ford End Road, Bedford MK40. Telephone: 0234 327422.

DAATASCAN PRO 3.01 £89.95

'Now a real force in hand scanning is within your grasp.'

EASE OF USE	95%
VALUE FOR MONEY	90%
EFFECTIVENESS	80%
FLEXIBILITY	60%
INNOVATION	60%
OVERALL	**89%**

Excellence! 3.0

Choosing the perfect wordprocessor becomes harder as more appear. To help you choose, Jeff Walker goes head to head with the latest upgrades for two of the best.

EXCELLENCE! 3.0

Micro-Systems Software have responded to the many criticisms that were levelled at version 2 of *Excellence!* with a complete redesign and a number of additions and enhancements. But have they done enough?

BOOT UP

The new version comes on three disks. None of these is a Workbench disk, so you are required to boot from your own copy of Workbench. No special setting up is needed, apart from installing the few supplied fonts on to your boot (Workbench) disk, achieved by double clicking an InstallFonts icon, and this is only necessary if you intend to use a PostScript printer.



Excellence! is able to generate and index and table of contents for your document.

So it's boot from Workbench, in with the *Excellence!* disk, double click its icon, and after a short delay while the program loads, you are presented with a pleasant looking screen with an open document ready for you to type into.

Initially, the program loads on an 8-colour Hi-Res screen, but this can be altered from the Preferences requester. You have the choice of 2, 4, 8 or 16 colours; a Display Configuration section lets you choose screen modes from Hires, Hi-Res-interlaced, Productivity or A2024. Screen colours can be changed to suit, including the colours used for window borders and details.

Changes made in Preferences and then Saved are not recognised unless all documents are closed when you make the changes, or until you quit and restart the program. Only one set of preferences can be saved, and the settings in this file are used on start-up.

FACING THE FACTS

For its screen display *Excellence!* uses standard Amiga bitmap fonts. Workbench 2 and 3 users are able to select any font in any size, because those versions of the Amiga operating system are able to rescale fonts 'on the fly', but Workbench 1.3 users are restricted to only those sizes actually on disk in the FONTS: directory.

The Compugraphic typefaces supplied with

WORDWORTH 2

At the more expensive end of the scale the long awaited *Wordworth* update from Digita has arrived.

FIRST VERSION

The first version of *Wordworth* received mixed reviews. While it had many advanced features and produced good output, some features, especially the printing facilities, were confusing and difficult to learn. Digita has addressed these problems, and more, in the version 2 release.

The original *Wordworth* supported Amiga bitmapped fonts and many typefaces that were resident inside particular printers; version 2 still supports these, plus ColorFonts and Compugraphic fonts or 'Intellifonts'. Amiga bitmapped fonts and ColorFonts (many-coloured bitmapped fonts, just like the ones *Deluxe Paint* uses) are printed at their screen resolutions, which is about 75 dots per inch. Consequently, they look jagged and rough around the edges, but that's bitmapped fonts for you. Intellifonts, on the other hand, are scalable and, when handled correctly by the program (and *Wordworth 2* does handle them properly), can be output at the highest resolution your printer is capable of. Even on 9-pin printers the output quality is significantly better than with Amiga bitmap fonts.

The price you pay for this quality is memory and speed. *Wordworth 2* requires 1.5Mb of memory, anything less and it won't load. Intellifonts, especially in large point sizes, use lots more memory, and if the documents you want to produce are the kind that feature pictures and smooth text in different typefaces and sizes, then 3Mb of memory is probably a more comfortable figure.

The program comes supplied with 17 Intellifonts. It can use the ones that come with Workbench 2, and it can use the *Professional Page* type of Compugraphic fonts, which means it'll work with those hundreds of PD Compugraphic fonts you may have seen advertised.

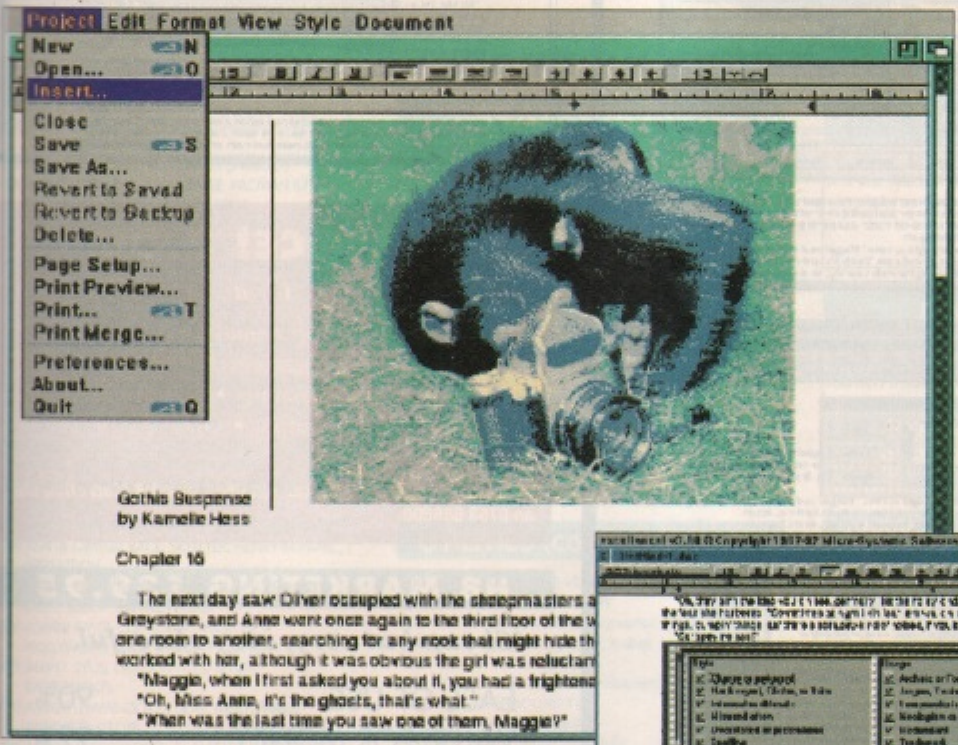
Because the files are so large and need to be accessed regularly, Intellifonts can be a little awkward to use from floppy disk, but if you've lots of memory it is possible to have a fonts directory in RAM:, which cuts out all the disk swapping. But the only way to speed up the time it takes to print documents set in Intellifonts is to buy an accelerator. On a standard Amiga 500 expect a page to take half an hour to print on a standard 24-pin printer.

PRINTER SUPPORT

Wordworth's strongest point is arguably its printer font support. It knows about many different typefaces that are resident in many popular printers – 172 of them according to the manual. It comes with screen fonts for the typefaces in printers like DeskJets, LaserJets (including PostScript), bubble jets, and many of the Epson compatible 24-pin and 9-pin dot-matrix printers. You can use these typefaces freely in any document.

Wordworth's graphics facilities are nothing

vs Wordworth 2

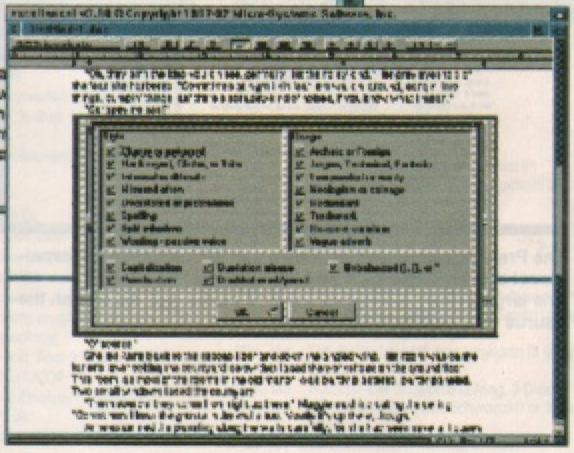


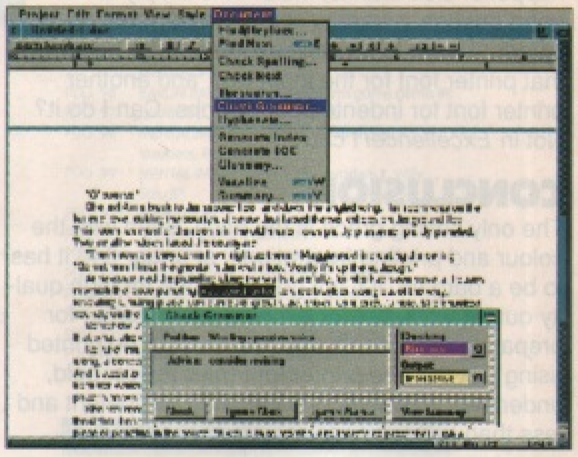
Graphics can be mixed with text, but they can only be inserted at the current cursor position. See that long black line to the left of the graphic? That's the text cursor, which is now about four inches high! Had I inserted the graphic lower down the page there would a four inch gap between lines.

Workbench 2 and 3 can also be used, and PostScript printer owners are provided with Courier, Helvetica, Times and Symbol screen fonts that will utilise the fonts of the same name in their printers. If your PostScript printer has more fonts than this and you want to use them, then the manual suggests you use the screen fonts from the *Professional Page* DTP package, which is a pathetic cop-out – why should you have to buy *Professional Page* just to get some screen fonts to allow *Excellence!* to utilise all the typefaces in a PostScript printer?

Any IFF-ILBM graphic up to Extra-HalfBrite mode can be loaded. All graphics are remapped to the palette and the number of colours in which *Excellence!* is currently working, which results in some psychedelic looking pictures if the colours in the graphic are very different from *Excellence!'s* palette. Although the program reads the graphic's palette, it cannot adjust its own palette to something closer to the colours in the original picture, it simply

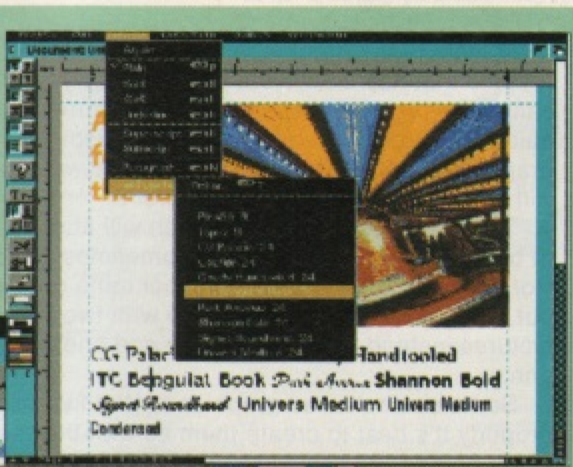
The grammar checker is something unique to excellence!. If you need the help, then this feature alone could be worth the sub-£40 price.

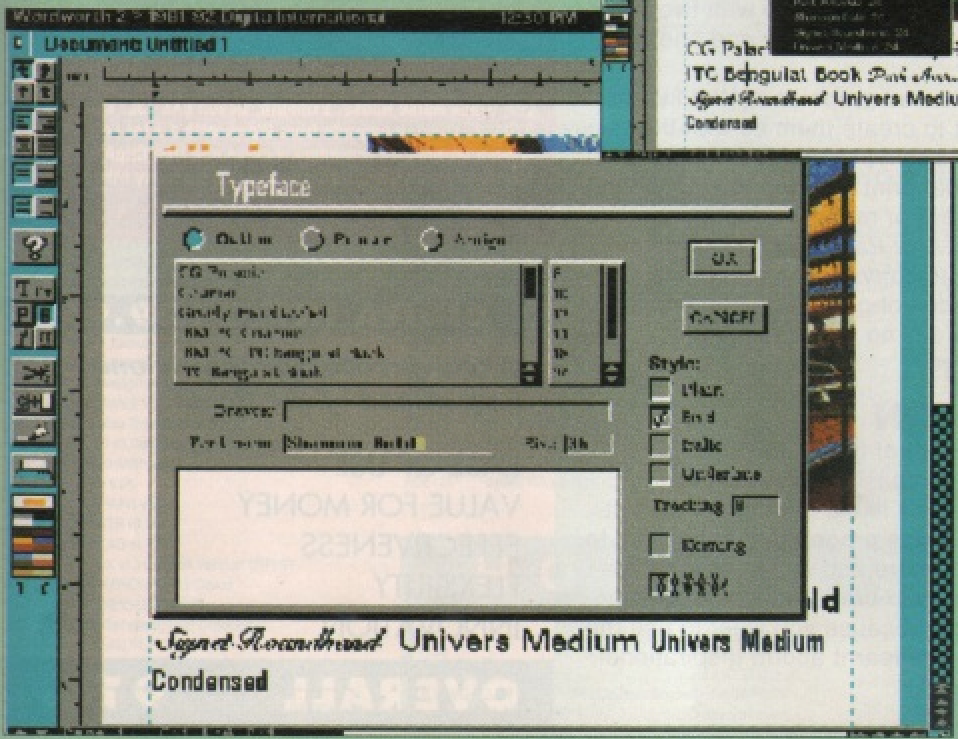




special – it's a word processor at heart after all, not a painting program – but there are enough features to enable you to spruce up your documents with pretty pictures and diagrams.

Those features haven't changed much from version 1. The IFF-ILBM file format is supported, from 2-colour up to HAM-6 (4,096 colours), but HAM-8 and 24-bit support is not yet implemented (they're working on it).





Wordworth 2 comes complete with 17 Agfa Intellifont (Compugraphic) typefaces, plus it can use Workbench 2 and *Professional Page* format CG fonts.

Support for PCX, BMP and Encapsulated PostScript (EPS) graphics has been implemented, although the latter format cannot be displayed on-screen and can be printed only on PostScript printers.

Any graphic you load gets converted to the same number of colours as the current screen mode. If you're working in 4-colour mode and you load a many-coloured HAM picture, don't expect the result to be worth looking at on the screen. Nor when printed, because *Wordworth* prints exactly what's on the screen.

MULTI-COLOURED SWAP SHOP

To use and print multi-coloured pictures you need to work in 8-colour or 16-colour mode. *Wordworth* converts the palette and is able to change colours 4-16 of its own palette to those



picks the closest colours in its existing palette.

You can fiddle with colours until the cows come home, but at the end of the day you are only going to get good results if the palettes of the graphics you import match *Excellence!'s* palette. And although the colour scheme gets saved with the document, if you alter Excellence!'s palette and import a document that has a different colour scheme, the colours in that document will get remapped to the new *Excellence!* palette. More psychedelia.

POOR PRINTING

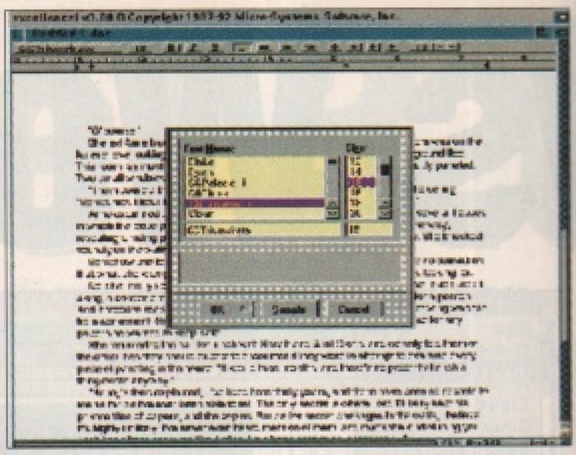
Output using Amiga bitmap fonts and graphics printing is poor. No attempt is made to increase the output resolution of these low resolution screen fonts, and even the scalable Compugraphic typefaces are output as they look on-screen (jaggy) instead of being printed smoothly as 'outline' fonts should.

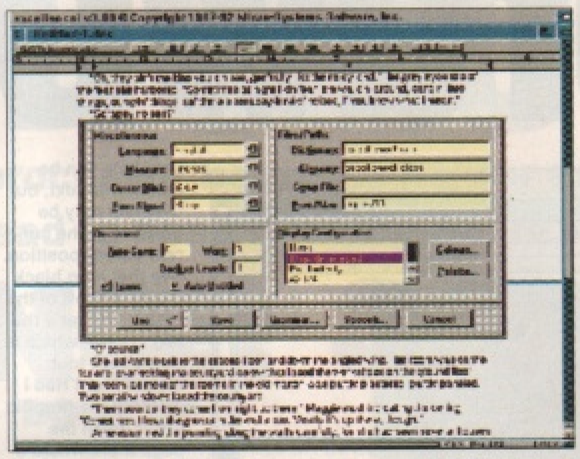
The resident fonts in printers can be used, but only one per document by means of the Font Number gadget in the Print requester, and only then if the printer driver supports this 'fonts number' feature. How do you tell? The manual suggests selecting different font numbers and seeing what happens. Gee thanks, MSS. This simply is not good enough. I want to select printer fonts on-screen; I want to use this printer font for headings, that printer font for the main text, and another printer font for indented paragraphs. Can I do it? Not in *Excellence!* I can't.

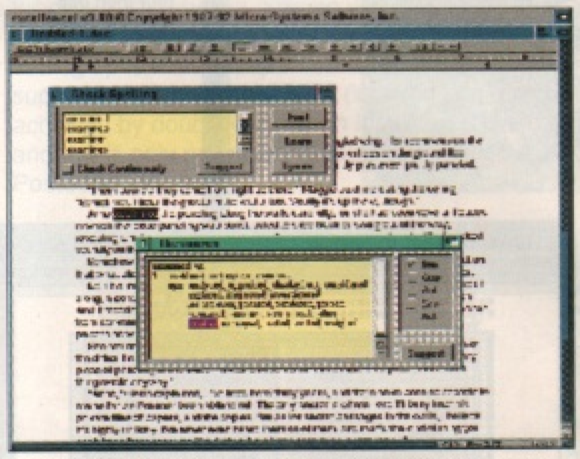
CONCLUSION

The only saving grace is the price. Even with the colour and printing frustrations, at under £40 it has to be a bargain. It's not good enough for high quality output work, but for bashing out words or for preparing documents that are going to be printed using just the one printer font (plus italics, bold, underline), *Excellence!* is certainly competent and less than half the price of rival packages.

Workbench 2/3 users can select Compugraphic fonts, but they still print jaggy and are hardly worth the effort.







The Preferences requester allows you to customise the excellence! display defaults to just the way you like them.
The large British spelling checker is useful, but the British thesaurus only supports synonyms.

EXCELLENCE! 3.00
. . . at a glance

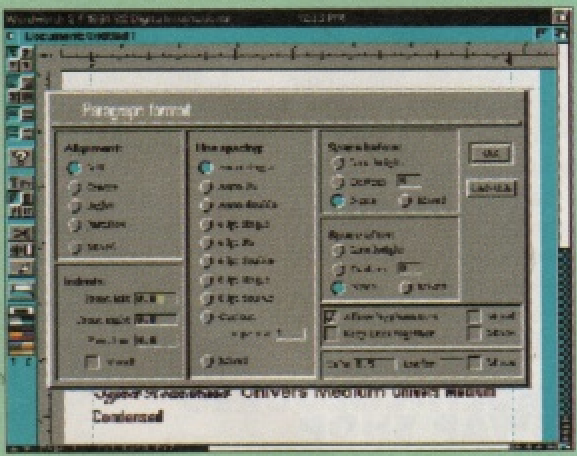
• No special setting up required • Very user-friendly interface • Aggressively priced • Good UK dictionary and thesaurus • Poor Amiga and Compugraphic font output • Only one printer font per document

Address: Excellence! 3.00 can obtained from HB Marketing Ltd on 0753 686000.

HB MARKETING £39.95

'Cheap but very, very cheerful.'

EASE OF USE	90%
VALUE FOR MONEY	92%
EFFECTIVENESS	41%
FLEXIBILITY	87%
INNOVATION	29%
OVERALL	**79%**





Formatting defaults for the whole document can be set from this requester; individual paragraphs can be formatted separately via the tool bar and ruler line.
Wordworth can remap imported graphics to its own palette, or

used most in the graphic. If you load another graphic that has a different palette, then you can ask *Wordworth* to use this new picture's palette, but then the colours in the previous graphic will get altered to the new ones, which will probably make it look really weird.

There is a Remap facility which will attempt to build a compromise palette; sometimes it works okay, particularly for monochrome output, but on the whole you end up with two bad pictures instead of one good one and one bad one.

So, to use coloured graphics in *Wordworth* properly it's best to create them all with the same palette. Basically, work out the 8 or 16 screen colours that print best on your printer, and stick to those. For monochrome printouts you could use *Deluxe Paint* or a graphics conversion package to convert all your pictures to the same 16 shades of grey. With black-and-white clip art there is no colour conflict problem, of course.

CONCLUSION

Wordworth has most of the features required from a top class professional word processor, and it looks and feels like a great piece of software. It's one of those programs that you like to use. As you learn more and more about its features it inspires you to produce better looking documents merely because you want to use the latest feature you've learnt about. Inspirational, that's the word.

WORDWORTH 2
. . . at a glance

• Compugraphic font support • High quality Compugraphic font output • Full PostScript font support • Multiple printer fonts in one document • Many popular printers directly supported • Excellent manual • 60 days free after sales support • A touch pricey, but you get a lot for your money.

Address: *Wordworth 2* costs £129.99 from Digita International Ltd, Black Horse House, Exmouth, Devon EX8 1JL. Tel 0395 270273. You can upgrade from *Wordworth 1.x* for £49.99 (registered *Wordworth* upgraders receive one free ClipArt and one free ColorFonts worth £25), or upgrade from any other word processor for £59.99.

DIGITA INT. £129.95

'A wordprocessor that is one step ahead of the field.'

EASE OF USE	88%
VALUE FOR MONEY	95%
EFFECTIVENESS	95%
FLEXIBILITY	82%
INNOVATION	64%
OVERALL	**91%**

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PDG-125 ASI#17 JETMAN, DEFENDA, TOMCAT, BUGBUSTER
PDG-126 ASI#18 OMEGA RACE, SKYFLYER, HENRY IN PANIC, MEGATRON
PDG-127 ASI#19 GROWTH, BLOP BLOX, FLIGHT, BIPLANE DUEL, SLIDER FRANTIC FREDDY
PDG-128 ASI#20 AMOS COIN DROP, MICROBES, HOLLYWOOD TRIVIA MATCH PATCH (P)
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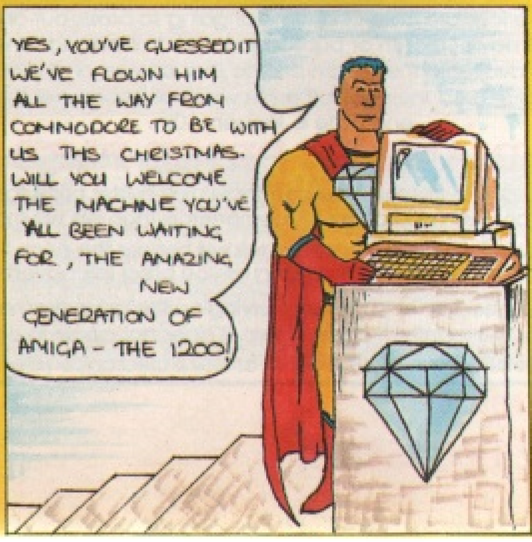
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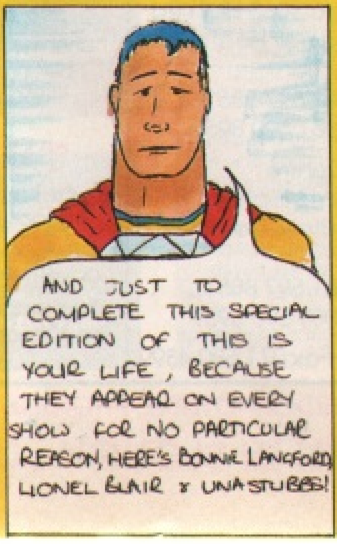
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ART GALLERY

We're constantly amazed by the artistic skills and ingenuity of CU readers. Art Gallery is here again to show off the best of the bunch. This month's pick highlights three talented artists.



LOOKING AT TROUBLE This fierce picture of a roaring tiger shows some excellent skills and colour choice. Framed in *D-Paint IV*, 16 colour medium resolution, by Steven Richardson of Sale Moor, Cheshire, is this fine animal picture.



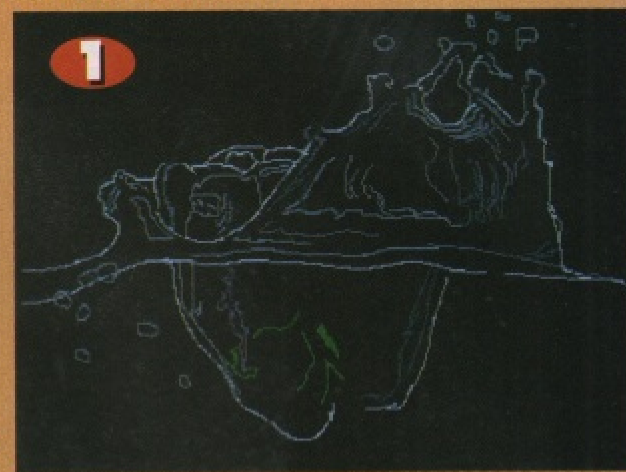
DANGEROUS DRAGON Hotter than the pepper and burning brighter than the tiger is this painting of a pair of flaming reptiles. Drawn by Richard Morley of Oxfordshire, using *D-Paint II*, it was inspired by the cover of a copy of 'Dragon', the role-playing games magazine.

SHOW IT OFF!

If you have a picture you consider worthy for inclusion in the Art Gallery, send us an IFF disk showing your drawing at several stages of construction, as well as in its completed glory. Please include a description of how you produced the effects displayed in each shot – your advice could help and inspire others.

Send your disk to: CU Gallery, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

MAKING A SPLASH Sergio Perciballi of Peterborough recreated this piece from a painting by Toshikuni Ohkubo using *D-Paint III* in low res, 64 colour mode.



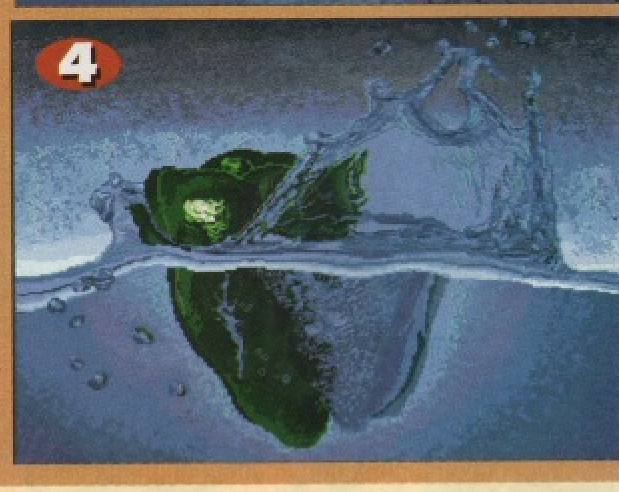
1. To begin with, the main areas were outlined.



2. The background colours were added with a large square brush. The airbrush was then applied to the areas displaying marked contrast.



3. At this point Sergio concentrated on the pepper. The highlight is particularly important if a sense of roundness is to be achieved. Note that, to the left of the pepper, a reflection has been added.



4. The drawing is finished! With more detail on the bubbles and the splash (including the reflection of the pepper) we can see just how convincingly a three dimensional object in motion can be portrayed. Sergio took about 13 hours on the drawing – time well spent, in CU's opinion.

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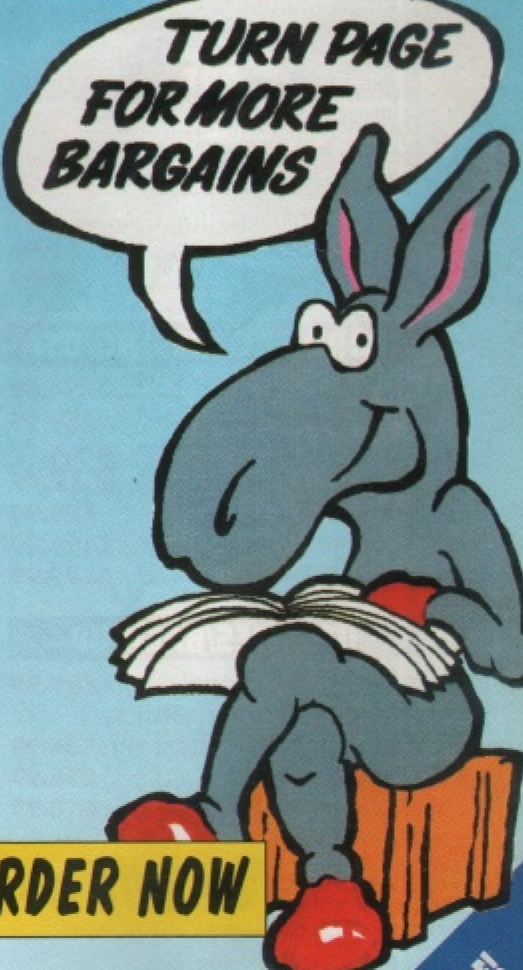
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THE AMAZING TOBIAS



This stunning Blade Runneresque drawing was just one of many excellent pictures included on a Crusaders' compilation disk of Tobias' work.



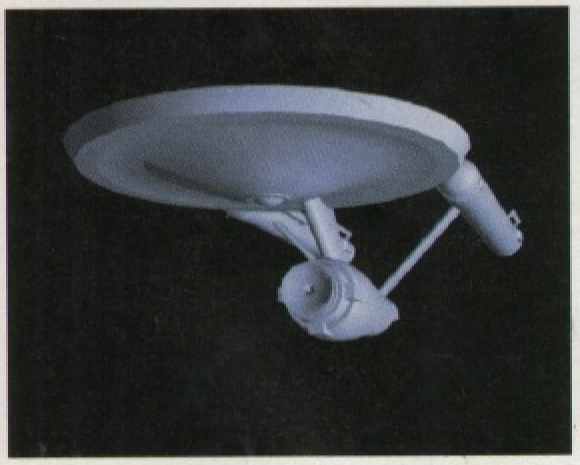
Although Tobias has worked on a number of commercial games, he's also self-published the best Star Trek game to appear on the Amiga so far. Definitely worth a look.

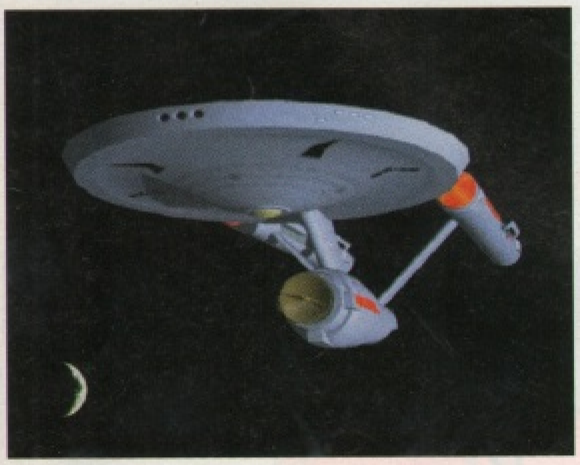
AMAZING ANIMS

Living in a computer-generated world populated by 3D renderings of the USS Enterprise, X-Wing fighters and anything else with a sci-fi theme, Tobias Richter has helped reinvent the Amiga's already awesome graphics and animation capabilities. CU Amiga readers will already be familiar with Tobias' work as his Public Domain disks frequently crop up in PD Scene and, just as regularly, get voted demo of the month. If you haven't come across his stuff before, then you really are missing out on some classy state-of-the-art animations. The spectacular images we've reproduced here look a thousand times more effective when they're part of a 3D animation. Imagine the USS Enterprise warping across the galaxy, blasting away with its photon torpedoes at a gigantic Klingon battle ship or a squadron of X-Wing fighters on a bombing run across the Death Star and you'll get an idea of what I mean.

Nearly all Tobias' work revolves around a sci-fi theme, and this usually means Star Trek in some form or other. As Tobias explains: 'I'm very much into Star Trek. It's a great show, promoting universal peace and co-operation between races. It's probably the best sci-fi show ever created. My best known work revolves around the show – but that's not all I produce. I've done things like a motorway car chase, zooming in and out of a 3D Pool table [Archer McLean eat your heart out!], some Blade Runner-type graphics, commercial games, videos, and lots of other stuff besides. It's probably true, though, that I put more effort into the Star Trek stuff just because I'm so interested in the series and the folklore that's grown up around it.'

Tobias' Star Trek work has even come to the attention of some members of the original cast of the show. At a Trek convention in the Bavarian town of Nurnberg last year, James Doohan (Scotty) was very impressed with Tobias' stunning animations and Walter Koenig (Checkov) has even signed him up to do some computer animations for Moontrap 2, a new sci-fi movie due for release in early '94. 'I'll be doing the animation for the spaceship computer displays. Lots of graphs, radar – that sort of thing.'

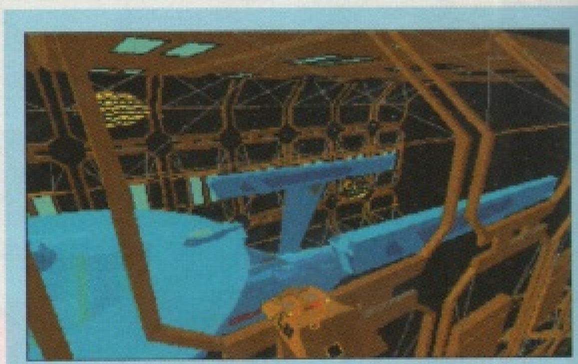




The U.S.S. Enterprise has figured in many of Tobias' animations and static screens. Above are two stages from one such shot and which amply demonstrate the German artist's attention to detail.

LOST IN SPACE

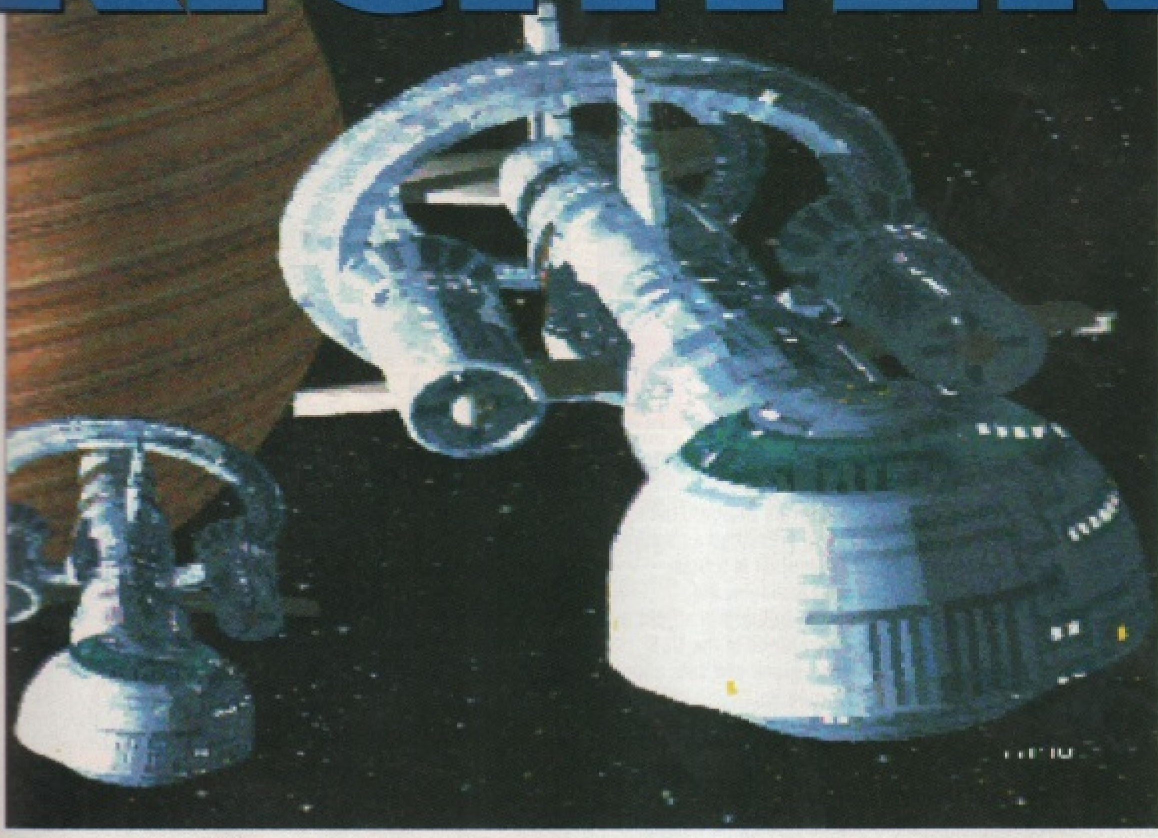
Tobias' latest release, Space Wars, is a huge 150Mb animated movie he's transferred to video tape and which is on sale from 17-Bit in this country. We've got a full review of it elsewhere in this feature, and it really is a breathtaking piece of work



This stunning sequence of shots is available from most PD libraries and shows the USS Enterprise leaving dry dock.

WORLDS OF... RICHTER

In the first of a series of exclusive interviews with some of the top creative people currently using the Amiga, Dan Slingsby takes a look at the brilliant 3D animations of Tobias Richter.



Imagine the money that the BBC could save if they just employed Tobias to do all their special effects...

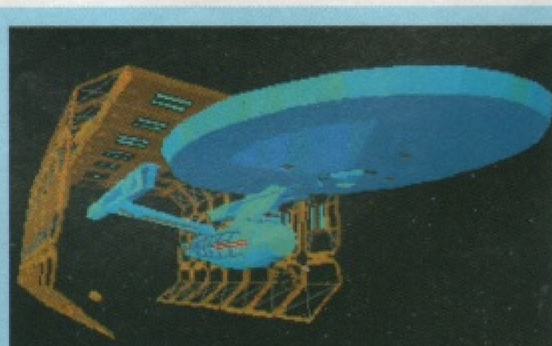
that took the German-born animator months to produce. 'It's most definitely my finest work to date. I'm very proud of it. I thought the Death Star sequence at the end of the first Star Wars movie was brilliant and I set myself the challenge of creating its computer equivalent. It's not just a straight copy, as I've included lots of other things besides. I mean, the original movie certainly didn't have the USS Enterprise making an appearance and the humour I've included is a bit warped, too.' This involves things like a Coke can replacing the bomb that finally destroys the Death Star and some Robin Reliant-like samples for the engine noises of the space ships.

'I've done a couple of other videos, too.' explains Tobias. 'The first one is a Trek-based movie, lasting 8 minutes, involving the Enterprise engaging a Klingon cruiser. It's a little like Space Wars, but not as good, as I created it more than two years ago. The other video, Mouse Track, was a demo reel I made for the German distributor of *Reflections*, an excellent 3D animation package that I use for most of my work. I made it together with a friend in just under one month. It's about five minutes long and features a mouse and trackball in a sort of 'Tom & Jerry' chase. The only way I can get my more complex work to a wider audience is by using video. Floppy disks just cannot handle the amount of memory these things take up – my latest project would fill more than 200 floppies!'

But it's not only movies that Tobias is moving into. He's already done a handful of commercial animations for industry and TV – including nearly all the animations for the German equivalent of Spitting Image called 'Hurra Deutschland'. 'I'm currently working on a big animation for another German TV show,' mentions Tobias. 'It will be about 30-40 seconds long, and be in 24-bit. It's going to be used as an intro for a one-hour show ➢

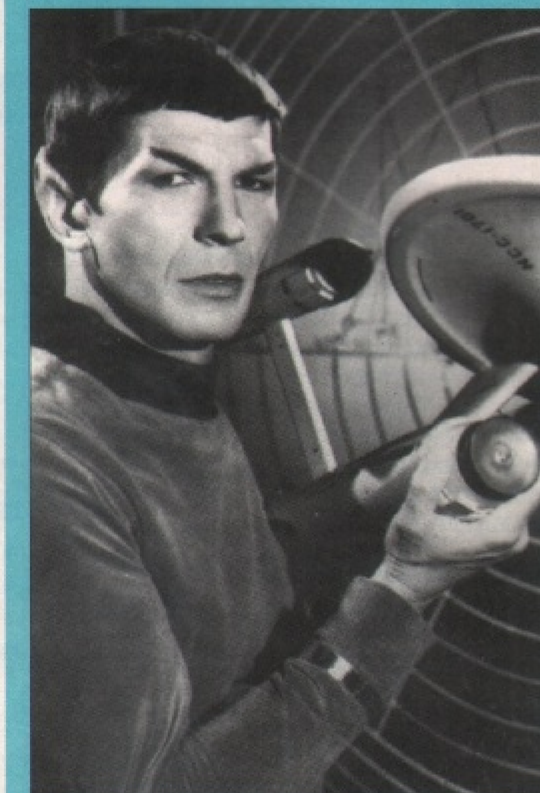


Travelling slowly past the various hangars, the star ship gradually emerges from its refit for adventures anew.



Fans of the Star Trek movies might well recognise this scene, as it's based on the first movie when Kirk commandeers the ship to go boldly once more.

IT'S LIFE JIM, BUT NOT AS WE KNOW IT...

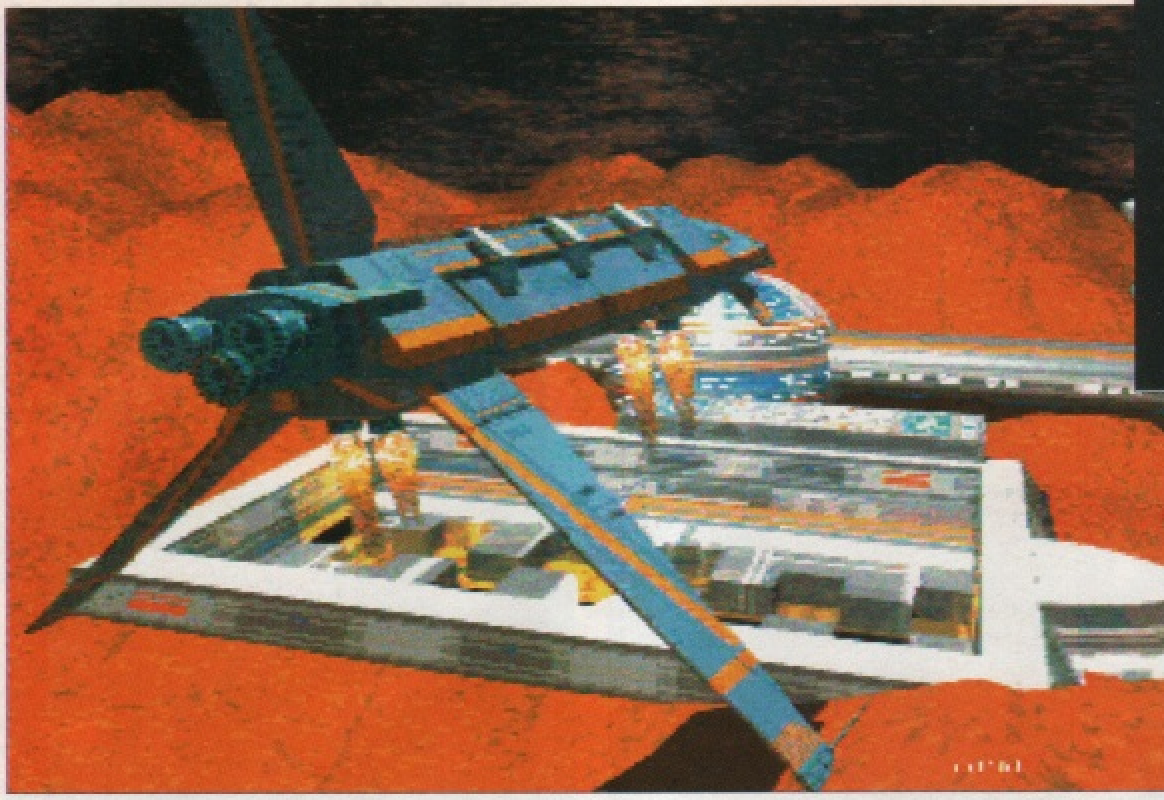


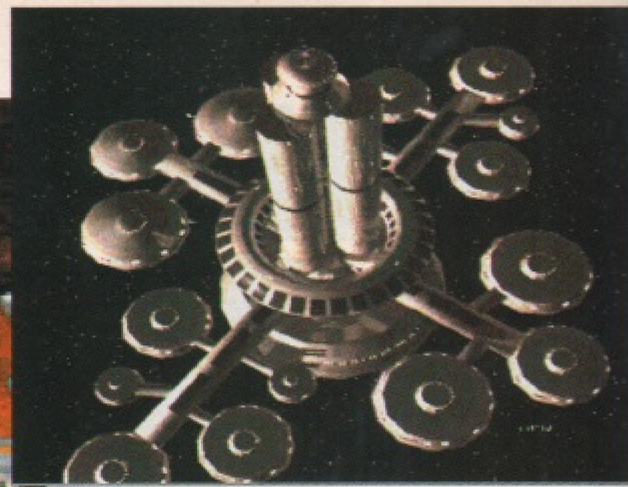
Tobias is a fanatical follower of Star Trek. Here he is after some recent plastic surgery

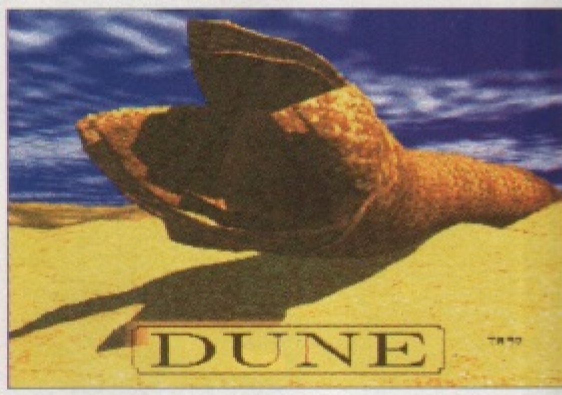
Tobias currently lives and works in Cologne, Germany. Still only 25 years of age, he bought his first Amiga in 1986 and, three years later, upgraded to an A2000. He chose the Amiga over the then popular ST because of the graphics capability of the new machine. 'When it first came out, the A1000 was a revelation. No other machine could touch it for its graphic prowess. I currently run an Amiga 2000 with lots of stuff bolted on including a 68030 board, a 40Mb hard disk, 9Mb memory, a flickerfixer, a 17" Eizo monitor and lots more besides. On the software front, I mainly use *Reflections*, *DPaint IV*, *Art Department*, *Scala* and *Videoscape*, although I'll take a look at almost anything else and use it if it's any good.'

Over the years, Tobias has pumped out a steady stream of PD animations and slideshows, commercial games and even videos. His first published work appeared on his own AGAtron label and were simple slideshows and basic animations created using *DPaint* and *Videoscape*. The AGAtron label now boasts a collection of over 90 disks, most by Tobias himself, although he has collaborated with other users from time to time. 'It's impossible to list them all, as I've lost count of the exact number and even wiped some of them from my hard disk. Most work with 2Mb of memory, although all my new stuff is much more memory intensive.'

'For most of my 3D-animations I use *Reflections* and *Reflections-Animator*. That's a German raytracing package – very powerful and fast. At the moment, I render most of my anims in DCTV format. I use *Deluxe Paint IV* for creating the textures and sometimes for postproduction. Besides that, I use *Art Department* for picture conversions and *Scala* for the animation playback. In some cases, I still use *Videoscape*, which I noticed you gave away on a recent coverdisk.'







about comics and show a space ship from outer space travelling through the solar system to Earth.'

If all this wasn't enough, he's also recently written a book and regularly writes for most of the German Amiga magazines. And then there is his games work. Tobias has provided the graphics for a wide variety of games, including *Oil Imperium*, *Cubulus*, *Bon Voyage*, *Conquestador*, and *Bundesliga Manager Professional*. Phew! Where does this guy find the time?!

NEW MACHINES

Like most other users, Tobias is a tad impressed with the A4000. 'Yes, a wonderful machine. Commodore were losing out to the PC, but this new machine has nudged them ahead yet again. It's excellent for graphic artists, although the lack of professional monitor functions is a real drawback. They should have spent a bit more money on a real flickerfixer. That aside, the Amiga is now a much more attractive option than a PC. You have to pay an awful lot of money for genlocks and graphic cards on the PC and these are much cheaper on the Amiga. And, of course, the Amiga's multi-tasking capabilities and the incredible amount of specialized software make it the number one choice for me.'

The CDTV also holds some interest for our German-born animator. 'The CD medium is a very interesting area, especially for animations,' confides Tobias. 'One of the problems with the CDTV, though, is the incredibly slow processor and the slow access time of the CD drive. I'm waiting for a writeable (and affordable) CD drive – that would be a great help in creating professional animations. If you consider that one frame in Videoresolution and 24-bit normally takes up 1Mb then it certainly makes sense. With 25 frames per second, a CD would be the best storage medium for that much data. I'm not sure that Commodore have got it right with the CDTV, but I'll reserve my judgement until CDTV2 comes out next year.'

So what of the future? 'I plan to start working on real workstations next year – either on my own or at another company. But it's VERY expensive to get into the professional animation market. You have to pay at least £20,000 to get the equipment and the softeware to run on it. And you also need the necessary video equipment, too. But I'm not giving up on the Amiga as I think it's a great machine and I'll probably still be using it years from now.' Let's hope so.

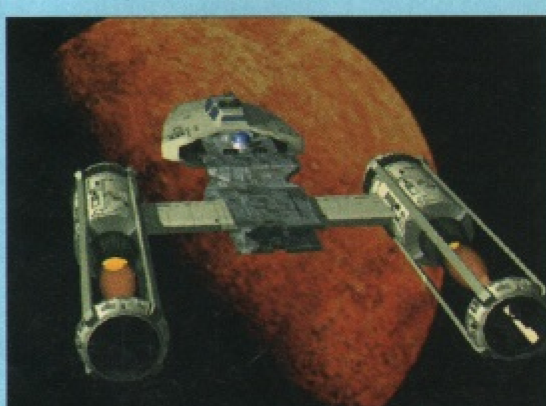
SPACE WARS

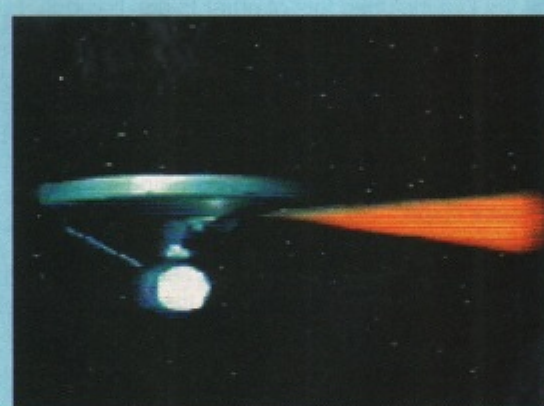
Using the combined muscle of five separate Amigas, taking up more than 150Mb of disk space, and presented as a stunning five minute video, Tobias' latest project is a Star Wars-style dogfight involving Imperial Cruisers, the Millennium Falcon, and X-Wing and Tie-fighters in a fight to the death. There's even a special appearance of the USS Enterprise, which materialises in deep space and sets about the Imperial forces with its photon torpedoes.

With an upbeat sound track, it's hard to believe that this is just an animated movie. Anyone who's seen the recent PC screenshots of the forthcoming Lucasarts' game, *X-Wing*, will gag at the sight of Tobias' excellent 3D renderings. Other graphical treats include a charge through a meteor belt, a run past the Death Star's defenses and a fly past by an Imperial Cruiser that beats anything you've seen in the original movie. If you're after state-of-the-art ray-traced animation or just want to see what the Amiga is really capable of, then you just have to buy this video. It's available from 17-Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1DH. It costs £11.99 plus 75p P&P.



As your X-Wing fighter closes in for the kill, your HUD display signals you've locked on for a kill. Simply press the trigger and this guy is so much space dust. These simple graphic displays might be easy to pull off, but they do add mmensely to the atmosphere of the movie.









These video grabs don't really do the Space Wars movie much justice. The animation is absolutely stunning and you'll soon forget that you're watching a computer-drawn animation instead of a live-action sequence.

United Public D

The innovators

Look out for the CLR logo!

THE BEST SELECTION OF PD IN THE UK !

MERRY XMAS

GAMES

PG001/2 ADVENTURE SOLUTIONS Excellent !
PG003 AIR WARRIOR Good flight Sim +
PG006 ANTEP & SLOT CARS role playing game+
PG008 ASI 1 Tanx, Rollerpede, Avatris Amigoids etc+
PG009 ASI 2 Invaders,Bally 2,Missile command etc!+
PG010 ASI 3 Megaball & Drip Superb !+
PG011 ASI 4 Frogger Go Moku,Cracker Jumpy etc!+
PG012 ASI 5 Raid, Go Looly & Retaliator+
PG013 ASI 6 Pacman Downhillchallenge Welltrix etc!+
PG014 ASI 7 Moonbase, Trix,Nightworks Clauderunner!+
PG015 ASI 8 Airace2,Hball,Snakepit & Numberfumbler!+
PG016 ASI 9 Features Battle pong & Blizzard! +
PG017 ASI 10 Escape, Pipeline, Pickout & Sysl+
PG018 ASI 11 Dad, Connex,Reversi Towers & Trippin+
PG019 ASI 12 Llamatron, Car, Powerpong. Fab!!+
PG020 ASI 13 Twintris, Squamble,Block it,Ball etc!+
PG021 ATIC ATAC Really playable ! +
PG024 BLACKJACK Good card game !+
PG026 CASTLE OF DOOM Excellent! Get it +
PG028 COLOSSUS & WORLD Fab adventures !+
PG029 CROSSWORD COMPILER As it says !+
PG031 DARKSTAFF Spec emulated adventure!+
PG032 DRAGONS CAVE D&D style game Mega+
PG034 ETERNAL ROME Strategy & DOMINOES+
PG046 HACK Great text adventure-infocom style! +
PG047 HOLLYWOOD TRIVIA Nice Trivia Game! +
PG048 HOLY GRAIL One of the best Text adventures+
PG051 KILLER CARS Great vectors game!+
PG053 LARN A superb text adventure game +
PG059 LORE OF CONQUEST space trading D&D game
PG062 MENTAL IMAGE 1 Gridrunner invaders & rebound+
PG068 NO MANS LAND Hi tech war game-shoot em up+
PG071 POM POM GUNNER Like beach-head on the 64+
PG072 PROPERTY MARKET Become a millionaire !+
PG073 RAPHAELS REVENGE Turtle game in SEUCK!+
PG074 RETURN TO EARTH Elite space trading game! +
PG076 SEVEN TILES Speedball type game-MEGA!
PG078 SEALANCE A submarine strategy game +
PG080 SERENE Good quality shoot up!+
PG081 SERENE II Follow up to the above game +
PG085 STARFLEET Nice game done in SEUCK!+
PG094 TRAIN CONSTRUCTION KIT make your own tracks+
PG101 THE INSIDERS CLUB Stocks & shares game
PG103 WET BEAVER GAMES Version of pong game!+
PG105 WIZZYS QUEST Fab arcade adventure game!+
PG108 ASI 14 ChinaChallenge2 & Amiga Columns!+
PG110 SUPER SKODA CHALLENGE Nice car racegame!+
PG121 A500+ GAMES PACK 21 games to run on a plus+
PG124 TOTAL WAR Great new Risk type game,ok plus!+
PG125 CARD SHARP 5 fab card games! +
PG127 AIRMANIA Super platform game from Addware +
PG131 ATLANTIS A nice looking strategy game! +
PG132 ASI 15 Battlecars Lettrix & Mambamove!
PG133 ASI 16 Wastelands, Mission X, Pacman +
PG134 ASI 17 Tomcat, Defenda, Jetman Bugblaster+
PG135 ASI 18 Henry in Panic Skyflyer Omega race!+
PG136 ASI 19 Growth,FranticFreddy,Biplane & more!+
PG138 BATTLE OF BRITAIN & WAR strategy war games+
PG139 DUNGEONS OF MADROJ Excellent D&D game+
PG140 MIND GAMES Stacks of fun with this !
PG141/3 SWORD OF WARLOCK RPG adventure 2drives
PG144 REVENGE OF MUTANT CAMELS Classic shootup!+
PG146 ASI 20 Microbes Hollywood trivia Coin drop +
PG149 A NIGHT AT THE TOWN Witty text adventure+
PG153 WAR very good strategy/arcade game+
PG155 ASI GAMES 21 Zeus Tettrix Battlements Dragntiles+
PG156 ASI GAMES 22 Lemmingoids,Wizzys quest Duel etc+
PG157 ASI GAMES 23 Quick money,BIP,Lienderon Arcadia+
PG158 PORK A PORK Pop the balloons & stop the foxes+
PG164 GAME TAMER 2.3 joystick tester & 268 cheats+
PG166 RAID III Wicked new shootemup !!!! +
PG167 SERENE III From the author of Raid III!+
PG169 ASI GAMES 24 Heavy Damage Dux Croak 3d maze etc!+
PG170 ASI GAMES 25 Mr Brick,Copper,hemeroids,E Type+
PG171 ASI GAMES 26 Superpacman 92 Smash tv Ashido +
PG172 ASI GAMES 27 Addictive card games. Really good!+
PG174 AMOS CRICKET Shareware cricket game,1 or 2plr+
PG175 SPACETRAX A 2 player shoot each other up game+
PG176 TECHNOBAN GAME Quite a nice puzzle game! +
PG177 HELLZONE Stunning R-type clone-GET THIS! +
PG178 MENTAL IMAGE 2 Three Excellent new games +
PG180 SECTOR 1 A nice game similar to alien breed +
PG181 STRIKEBALL Baseball type game done in Amos +
PG182 ETHOS Simple graphical adventue Sinbad style +
PG183 CATACOOMBS A great D&D style game. VG.GFX +
PG184 FATAL MISSION Very good Shootemup game +
PG186 ASI 28 Doody, DrMario, Invaders2, Madbomber2+
PG187 ASI 29 DOG, Rome, Nova, B-Bal, Atax, Quadrix+
PG188 ASI 30 Bounce & Blast, Total Fire Tank attack!+
PG189 SPACE RESCUE Super scramble like shoot em up!+
PG190 TOP SECRET An exellent quality platform game!+
PG191 ACT OF WAR New space strategy game! +
PG193 MASHIE NIBLICK Yes, a golf game for your Amiga!+
PG196 MASH THE POTATO Strange game written in Amos+
PG197 ANDYS AMOS GAMES 6 good games on here!+
PG198 AIRPORT Now you control an airport! +
PG199 CASHFRUIT Nice fruit machine game! +
PG200 ALL ROUNDER CRICKET New cricket game!+
PG201 APPLE CATCHER Simple fruit collection!+
PG202/3 IRON CLADS Good strategic war game! (2)
PG204 THRALLBOUND Text adventure with graphics!+
PG205 SOCCER CARDS Football managing game!+
PG206 ASI 31 Arazmaz,Crazy pipe, revolution etc!+
PG207 ASI 32 Blob, Sector one & Firefighter! +
PG208 ASI 33 Hyperball & War! +
PG209 ASI 34 Trailblazer, Yelp, Qbic Rushour! + *
PG210 ASI 35 Poing, Snakepit, Cybernetix etc!+
PG211 ASI 36 Mother lode, Wonderland, Kong etc!+
PG212 ASI 37 Klaktris, Ghostship, Pacer etc!+
PG213 ASI 38 One on One,Baldy,Skyflyer2,Transplant!
PG214 LEGEND OF LOTHIAN Superb Ultima type game!!+
PG215 ASI 39 Lots of card games!! +
PG216 ASI 40 Disk full of sliding puzzle games!+
PG217 ASI 41 Pacman deluxe, Hellzone, Leap II etc!+

EDUCATION

PE001/5 EDUCATION SET science programs for ages 11+ +
PE006 KIDSPAINT Fab little talking colouring book+
PE007/8 LEARN & PLAY Maths, spelling etc. 5-10 yrs +
PE009 STORYLAND 2 Save toyland from the witch! +
PE010 TOTAL CONCEPTS ASTROMOMY Book on a disk.+
PE011 TOTAL CONCEPTS DINOSAURS Book on a disk+
PE013 SIMON & SPACE MATHS Talking maths program
PE014 SPANISH, FRENCH, GERMAN TUTOR Translator +
PE015 TREASURE SEARCH find the lost treasure ! +
PE016 COLOUR THE ALPHABET learn letters & colours! +
PE018 TYPING TUTOR, Superspell Budget & Mscalender! +
PE019 DUNKS DTP A sort of DeskTopPublisher for kids +
PE020 MATHS DRILL for the young, includes speech!+
PE021/4 SCIENCE 4 disks of scientific programs!+ (4)

BUSINESS

All ok on A1200 except PB006!!

PB001 AMICASH bank management program+
PB002/3 ANALYTICALC Superb spreadsheet!+ (2)
PB004 ASI LABEL PRINTERS 3 of the best+
PB005 BANKIN control your cheque book! +
PB006 BUSINESS CARD MAKER Nice program+
PB007 CLERK Complete accounts package+
PB008 DESKTOP PUBLISHER Simple to use +
PB009 FLEXYBASE DATABASE Address keeper+
PB010 JOURNAL Keep track of finances
PB011 MISC.BUSINESS Geotime, Grocery list, Calc
PB012 QBASE Simple 8 field database
PB013 QED Simple & effective text ed+
PB014 RIM DATABASE Fully relational !!+
PB015 TEXTPLUS V3.00 The BEST Wordprocessor +
PB016 UEDIT ISSUE 3 NEW VERSION Text Editor+
PB017 VISICALC SPREADSHEET Simple to use+
PB018 WORDWRIGHT Wordpro with spellchecker! +
PB019 BUSINESS LETTERS contracts, letters + more+
PB020 TEXT ENGINE 3.4 NEW Version !!! +
PB021 AMIBASE PRO. Powerful easy to use Dbase +
PB022 BBASE II v5.5 A fast & easy to use database+
PB023 FORMS REALLY UNLIMITED form creation prog+
PB024 LAST WILL & TESTAMENTS Just in case !+
PB025 EDWORD Brand new wordpro - V.good +
PB026 AGRAPH Superb Program graphing data +
PB027 BOILERPLATE Business letters & Wordpro +
PB028 LITTLE OFFICE Intergrated Wpro,Sst,Dbase,Gfx+
PB029 ADDRESS PRINT Good label printing program! +
PB030 THE MONEY PROGRAM Home accounting! +

UTILITIES

PU002 A-GENE Good geneology program +
PU003 A68K 68000 Assember program
PU004a/b A64 EMULATOR NEW VERSION 2.0 (2)
PU005 AMATEUR RADIO 1 Interest to radio hams +
PU010 ARP 1.3 Amigados replacement project! +
PU012 ASI GRAFFIX UTILS graphics convertors etc+
PU013 ASI BOOT UTILITIES bootblock utilities +
PU015 BIORYTHMS, STARCHART 2 Good programs+
PU017/20 C MANUAL II (4) Learn to program !!!
PU021 C-LIGHT RAY TRACER Good program+
PU022 CHEMESTHETICS molecule displayer +
PU036 CURSER BASIC COMPILER Just what you need!+
PU037 D-COPY The best PD disk copier & more +
PU039 DBW The foreunner to Skulpt 3D !!! +
PU040 DEMOLISHER 168 UTILTIES - MEGA !+
PU047 DOPE INTROMAKER Make your own intros+
PU048 DYNAMITE FONTS II CutNPaste fontscreens
PU049 DYNAMITE FONTS More CutNPaste Fonts
PU055 ELECTROCAD DEMO circuit designer +
PU056 EXILE FONTS Excellent CnP fonts+
PU058 FONTS AND RAM MANAGER BIG video fonts+
PU059 FONTS & SURFACES Backdrops & fonts+
PU062 GRAPHICS UTILITIES Various misc. programs+
PU063 HAMLAB Convert VGA PC >IFF/HAM +
PU064 HARDDRIVE UTILS MRBackup & FixDisk & more +
PU065 ICONMANIA Program icons & more !+
PU066 ICONS Cramm packed with icons !+
PU067 IMPLODER V4.0 Megacrunching Util+
PU071 JR COMM 1.02 Modem users comms package
PU072 METALLION UTILS Font Editors & more utils+
PU073/76 KING JAMES BIBLE Old&New testaments (4)+
PU078 M-CAD Hires design package. Excellent +
PU080 MESSY-SID Read/Write PC Files, Brilliant!+
PU083 MORSE PROGRAMS for the radio hams.
PU086/7 NORTH C 1.3 (2) Complete C compiler & libs+
PU088 NORTH C 1.3 This is the packed 1 disk version!+
PU089 PASCAL COMPILER needs a good CLI knowledge+
PU091 PENDLE 200 MEGAUTILS An essential collection+
PU095 PRINTER DRIVER GENERATOR & new drivers+
PU096 PRINTER DRIVER UTILITIES Various utils etc.
PU097 PRINT STUDIO V1.25 Prints pics & text etc.+
PU108 ROT A simple 3D drawing package.Very popular.+
PU109/10 (2 disk) Structured clipart for Ppage +
PU112/3 SOMETHING FOR NOTHING Video Utils&Fonts+
PU115 ST EMULATOR Run Atari ST software !! 2 Drives
PU117 SUPERKILLERS Virus Killers! You need this! +
PU121/2 TV GRAPHICS Dpaint backdrops&Fonts+(2)
PU124 ULTIMATE ICONS Iconmaster,Iconlab,+
PU129/30 VIDEO APPLICATIONS Video utilities+
PU136 ZX SPECTRUM EMULATOR Now with sound +
PU139 GRAPHICS CONVERTERS PC>AMiga gfx Converter
PU140 LITTLEBENCH File copier & utils Dos2 only
PU141/2 TAROT II Learn about your stars !+
PU143 OPTIUTILS 1 Crammed full ! Get it+
PU144 OPTIUTILS 2 Get this disk too ! +
PU145 OPTICOMMS 1 Ncomm 1.921 Lharca, Zoo Arc+
PU149 ELECTRONIC PROTOTYPER Veroboard designer
PU150 FOOTBALL LEAGUE ED Update league positions
PU151 BROTHERHOOD UTILS 1 Dcopy,Scenery,Qed +
PU152/66 CLIPART SET: 15 Disks of the BEST clipart +
PU167 MULTI-PLOT Superb data plotting program ! +
PU169 GELIGNITE FONTS CutNPaste fonts+
PU170 P-SUITE Disk magazine maker+
PU171 OPTICOMMS 2 Ncomm 2 & more +
PU172 WORDPOWER Solve Anagrams/Crosswords+
PU174 ASTRO 22 professional astrology program! +
PU175 GELIGNITE FONTS II Excellent IFF fonts+
PU176 GELIGNITE FONTS III More of above!!+
PU177/8 BENCHMASTER Windowsbench & Messysid!!
PU182 STOCK ANALYST Technical analysis program+
PU183 AMYGEN Excellent geneology program+
PU184 PROCALC V1.0 professional calculator!
PU185/6 COSMOPOLITAN FONTS (4) Packed with fonts+
PU189 TRONIK VIRUS KILLERS 21 virus killers & docs
PU191 LANDBUILDER fractal land generator+
PU192 SID 2 Get this ! directory util !!! MEGA!+
PU197 MOBED 2 Dpaint for Sprites & bobs+
PU198 VIDEO WIPES Masks & fades Dpaint 3/4 +
PU202 CYCLOPS Weird Plasma/fractal creator ! +
PU203 SCOPE 184 utils & clips for Ppage
PU205 PC TASK Wicked PC Emulator Get it !!! +
PU207 MULTISID Combines SID2 & Multidos(PC>AMIGA)+
PU208 ASI HANDYTOOLS 3 A mega compilation of utils
PU209 FRED FISH CATALOGUE contains FISH 1 - 680 +
PU210 PCQ PASCAL Latest version of this Pascal compiler+
PU211 AMIGA PUNT A horse race predicting program!!! +
PU212 PERM CHECK PLUS This is a pools prediction prog
PU213 RACE RATER Another horse racing program!! +
PU215 CAPTIONATOR Superb shareware video titling! +
PU217 BROTHERHOOD UTILS 2 More utilities for the plus!+
PU219 WBHACKS+ Good collection of hacks for + owners+
PU221-225 8 COLOR ICONS Hundreds of new icons +
PU226/7 C-EYES FONTS For use in Dpaint, WB, etc.(2) +
PU228 PROBABLY RIPPER Create disks easily with this!+
PU229 JPEG 24 bit graphics compression utility disk! +
PU230 MORE PRINTER DRIVERS Yes new printer drivers!+
PU231/5 PAGESTREAM FONTS 5 disks of super fonts!+ (5)
PU236/7 SCOPE197/8 Adobe type fonts, 2 disks full! +
PU238/9 M.O.R.C. Mouse operated rune caster,oracle !+
PU240 FREECOPY V1.4 A powerful disk copying program! +
PU241 CALORIE BASE Useful for people on a diet!+
PU242 TEXTPLUS PROFESSIONAL 4 needs hard drive!+
PU243 ASPICE Circuit analysis program!+
PU244 BON APPETIT This is a recipe database program! +
PU245/256 C MANUAL Latest version on 12 disks!!!! (12) +
PU257/61 PAGESTREAM FONTS 2nd set of fonts!+
PU262 RICHARD SMEDLEY COMP II Mortgages etc!+
PU263 LYAPUNOV Fabulous & unusual fractals!!+
PU264/8 OUTLINE FONTS For Pro pagev3 ONLY!!+

ANIMATIONS

PA031 BASKETBALL A basketball player 1 Meg! +
PA039 ERIC-S AMY VS WALKER Cute & sexy! 1.5M
PA040 ERIC-S BATMAN vs JOKER Very funny!!!+
PA042 ERIC-S COYOTE STRIKES BACK 1mg too! +
PA043 ERIC-S MORE AEROTOONS Very witty !!!+
PA045 ERIC-S STEALTHY II Mig-29 vs Stealthy !+
PA046 FRANKLYN THE FLY Day in the life of a fly! +
PA048 GYMNAST ANIM Gymnast swings on bars! +
PA053/4 LIGHT CYCLES (2) Tron animation+
PA056 MAGICIAN II Good RT animation+
PA060 NEWTONS CRADLE RT animation +
PA065/68 REAL 3D (4) Superb of the program+
PA069 REAL THINGS HORSES DEMO Demo anim! +
PA072 THE JUGGLER A classic amiga demo!+
PA074 THE WALKER vs The Helicopter - Mega !+
PA075 THE WALKER vs A2000 A classic ! +
PA082 TIN TOY ANIMATION Ray traced tin soldier! +
PA085 JET ANIMATION Fractal Flight but better! +
PA086 FRACTAL ANIMATION full screen low flying anim! +
PA090 TOO MUCH 3D Ship flys out of monitor!! +
PA091/3 GAS TURBINE, STEAM & PETROL ENGINE (3)+
PA094 AMY JOGS,WALKS & SNEEZES by Eric Schwartz! +
PA095 HOW TO RUN INTO A WALL by Eric Schwartz! +
PA097 A SMALL STATION AT KHERNE New 1mg version+
PA098 EASTER ISLAND ANIM A nice fractal animation!+
PA099 ATF AGILITY new ES anim, very witty as usual+
PA100 VTOL CONTEST Check out this new ES anim ! +
PA101 DOLPHIN DREAMS Great Dolphin anim! +
PA102 BATTLE OF BRITAIN Amusing short anim!+
PA103/4 KINGFISHER 2 Superb bird animations!+

AGATRON

Most ok on new A1200!

AGA01 RED LOTUS Spinning down the road. Fantastic !+
AGA03 STAR TREK - Shuttle fly past - Great ! 1m +
AGA09 STAR WARS - Fighter fly by, impressive 1m +
AGA10 STAR TREK - Enterprise in dry dock. Incredible+
AGA20 Huey 2 A helicopter leaving a landing pad.+
AGA21 ENTERPRISE DOCKING WITH SPACE STATION+
AGA22 ENTERPRISE APPROCHING stunning anim ! 1M +
AGA23 FLEET MANOEVRE Stunning animation! 1m +
AGA24 KULI PEN animation & Ping pong. Great! 1m +
AGA25 THE RUN , a suberb car chase 1mg +
AGA31 PORSCHE anim rising out of table 1 mg. +
AGA33 PROBE Bird of prey animation & Klingonhit! 1m+
AGA35 SPACE PROBE, great anim of probe zooming off!+
AGA36 BIRD OF PREY, loop the loop animation 1m +
AGA37 TOBIAS GOES KNACKERS - Check this out ! 1m +
AGA38 TOTALLY WICKED ! Shuttle & Enterprise (2 MEG)

POWERANIMS

PP001/2 ANTI LEMMINGS (2) This is Brilliant! 2M
PP003 AT THE MOVIES Cute anim of Amy squirrel 1.5M
PP008/10 BUZZED (3) Great anim of wasp crashing! 2M
PP011/12 DATING GAME (2) Very witty!, Get it. 3.5M!
PP016 GULF WAR Another ES production! Good 2M!
PP021/24 LANDING (4) Tobias Richter poweranim 4M!
PP025/27 STATION AT KHARN (3) Incredible 2M demo
PP040/43 AT THE MOVIES II (4) Hilarious ! 1mg>3mg
PP044/45 AMY V WALKER II (2) Another witty ES demo 3M
PP046 SWEET REVENGE Coyote vs Roadrunner ! 1.5mg+
PP048/9 A DAY AT THE BEACH Stunning ! 2 Mg
PP050 UNSPORTING Wicked aerotoon from Schwartz+ 2M
PP051/2 CHARLY CAT Super Shwartzlike cartoon! 2mg.
PP053/4 CHARLY CAT AT THE BEACH 2nd fab anim 2mg!
PP055/6 APC MISSION Superb walker & tank battle 3mg!
PP057/9 CHARLY CAT CATCHES A CANARY Fab! 3MG.
PP060/3 CHARLY CAT MOUSTERMIND Great! 3.5MG.
PP064 DUNCAN DUNG BEETLE Unusual 2mg animation!

DEMOS

PD005 AMOS 3D DEMO Shows some great effects!+
PD018 CHAOS ROCK Fab light show with fractals!+
PD064 NEWTEK DEMO 3 exellent demo!(2)+
PD068 PHENOMENA ENIGMA Absolutely brilliant!+ok 1200!
PD076 PLASMUTEX Good plasma & great music +
PD094 SCOOPEX MENTAL HANGOVER A classic+
PD097 SILENTS GLOBAL TRASH Incredible!!+
PD113 VANGELIS DEMO Fab music & color cycling!+
PD130/34 ALCATRAZ ODDESSY Awesome!! Ok on 500+!
PD139 TRACKERS POWER & AGONY Unusual vectors! +
PD142 FINAL CONFESSION Music & Plasma effects!+
PD143 CAT Silents & Crionics demo for cat club +
PD159 ANARCHY IN THE KITCHEN Some good FX Fab!+
PD162 ALCHEMY MARCHWITH Very good new demo+
PD164 DESIRE MENACE Good Psycho rave demo +
PD165 DARK DEMON Mega new demo .... get it+
PD170 PIECE OF MIND Good 3D vector effects. +
PD171/2 SILENTS EXPOSE(2) Incredible Get it !+
PD174 ANARCHY DEJA VU Some more superb effe
PD175 REFLECT SOUND VISION Super effects &
PD176 CHAMELEON DEMO Very nice vector dem
PD177/8 TRSI TIME ZONE New, some good effect

MUSIC DISKS

PM001 100 GREATEST 64 TUNES 100 fab 64 tu
PM010 AMEGA PARTY WINNERS Four WICKED
PM012 AMIGADEUS CLASSICAL Eine Kleiner etc.
PM013 ANARCHY CAPTURED IMAGINATION Nic
PM016 BEATLES SONIX Nice music +
PM018 BEATMASTER I LOVE TECHNOLOGY Ra
PM019 BRUNO's MUSIC BOX II Superb jazz funk
PM020/21 BRUNOS MUSIC BOX III Jazzfunk. Get
PM022/23 CLASSICAL MUSIC Bach, Handel etc +
PM027 D-MOB MUSIC 3 House music remix, good!
PM030/34 DIGITAL CONCERTs 2-6 Excellent hou
PM035 DIGITAL DEBUSSY Great Rob Baxter con
PM036 DIGITAL DEBUSSY 2 More classic Debus
PM058 MAG FIELDS CHIP FESTIVAL Full of chip
PM059 MANIACS OF NOISE This is brilliant!+
PM065 PHENOMENA MUSIC DREAMS 1 20 fab so
PM082a/82b VIVALDI - FOUR SEASONS (2) V.Go
PM090/91 MOZART HORN CONCERTOS 4 by H.G
PM092 PIANO TUNES Nine piano songs- good +
PM096 STAIRWAY TO HEAVEN Rendition of the
PM105/6 KEFRENS MEGAMIX Fabulous dance mu
PM114 UPROAR SPLIT BEAVER MIX rave megam
PM115a/b CHROME Brilliant music disks !
PM121 NIGHTBREED MUSIC DEMO 8 Rave music
PM122/4 PLAYSID 2 (3) You must get this !!!!! +
PM125 PLAYSID inc.RobHubbard, ManiacsOfNoise
PM134/5 SOUNDS OF SCIENCE (2) Absolutely Bri
PM137 KEFRENS MEGAMIX II Very good !! dance
PM141 HARDLINE MUSIC 7 groovy synth-style tra
PM143 FALCONS MUSICBOX 2 Average music di
PM150 DESKTOP HARPSICHORD RECITAL Clas
PM152 PARADISE: NO BRAIN NO PAIN Good for
PM153 BIZE: KILL DA BABE 6 tracks of rave music
PM154 PULSE Yes, pulsating rave music again!! +
PM155 VINE G-RAVE 5 more good rave tracks!!! +
PM157/8 HEATBEAT UPDATE 9 great songs here!+
PM159 DECIBEL OVERLOAD 5 different tunes!+
PM160 FUSION MATRIX 5 rave type tracks!+
PM161 CYBERNETIX 19 songs packed on 1 disk!+
PM162 MORE MED TUNES Fab tunes by Alex Sta
PM163 OCTASTUFF Some good 8 track tunes! +
PM164 OCTAROCK 3D More 8 track & 3d graphics
PM165/6 NUTCRACKER SUITE Super version!+

SLIDESHOWS

PS002 ADVANCE HAM Really stunning !+
PS008 AIRCRAFT SLIDE Pics of fighter aircraft! +
PS009 ASTRONOMY SLIDE very impressive !+
PS013 BORN TO BE FREE wild animals +
PS030 FRAXION FUTURE VISION fantasy pics+
PS033 GERMAN RAY TRACE Superb See these !+
PS045 KELLY S/S Some quality HAM pictures. +
PS056 NEWTEK DYNAMIC HAM 640x512 4096 co
PS062 NW DYNAMIC HAM Nik Williams Superb q
PS067 RICK PARK'S ART Dpaint hires pics! +
PS069/70 SILENTS/CH 42 (2) This is superb!+
PS072 SUPER HAM CARS This is a must-Mega!+
PS086 SONIC 5 Superb D-HAM 4096 colour pics+
PS090 FRACTALGEN Incredible fractals etc +
PS091/2 FRACTAL MOUNTAINS Excellent stuff!+
PS093 VANISH 3D Awesome 3d ray traced +
PS094 INVISIBLE WORLD II Yuk Bedbugs And mo
PS095 TOTAL CONCEPTS SLIDE Pics of forthcom
PS101 ANALOGUE SLIDE Ray traced space pics +
PS102 ACCESS DESIGN Ray traced space pics +
PS103 DYNAMIC HIRES 2, 4 fantastic quality pictu
PS104 VGA PICS Some exellent quality pictures he
PS105 SCAN PICS Exellent quality pictures!+
PS106 BAHRAIN SLIDES Pics from the middle ea
PS107 ALCATRAZ MUSEUM 18 super quality dra
PS108 SANITY COMP WINNERS 10 Superb draw

MUSIC UTILS

PT001 ALGORYTHMS Create weird midi tunes
PT002 ART OF MED Excellent !+
PT005 CASIO CZ EDITOR 250 patches ! +
PT006 DELUXE MUSIC DATA Midi music+
PT009 K1 IFF SAMPLES Fabulous samples +
PT011 KAWAI K1 editor for patch changes!
PT012 KAWAI K4 editor as above!
PT013 MED 3.2 Excellent music seq. +
PT014 MED MUSIC DISK As it says !+
PT015 MIDI DISK Various midi stuff +
PT019 ROLAND D110 + S220 Converter program
PT020 ST-01 - ST-10 Samples--Ring for details
PT021 SOUNDTRACKER 2.6 Excellent, ok plus!+
PT022 SOUNDTRACKER COMPILATION Severa
PT025/6/7/8 ST-90-93 SAMPLES DISKS Studio q
PT029 YAMAHA DX7 VOICE FILER for DX7 synt
PT030 YAMAHA DX7 VOICE SORTER for the ab
PT031/2/3 ST-87 - 89 3 disks full !+
PT034/5 ST-97 & 98 More samples !+
PT037 PROTRACKER 2.2 THE LATEST VERSIO
PT038 YAMAHA DX100,TX81Z, DX27,DX11 & F
PT039 SUPER SOUND 2 Add reverb & Fx to sam
PT040 OCTAMED V1 8 channel MED sequencer
PT041 NOISEPLAYER 4.0 Multitasking module p
PT042 START IFF SAMPLES Superb ! Get this d
PT043/5 HOUSE SAMPLES 3 disks full of house

AMOS PD

APD036 AMOS UPATER Latest updater !!! v1.34
APD115 BALLOONACY Bomb the buildings !+
APD237 SHAPES Excellent kids game !+
APD257 CASSETTE LABELLER + MIXED SOU
APD271 WIZARDS DOMAIN graphical adventure
APD292 WAR OF THE FOUR graphic adventure
APD329 FRUIT MACHINE Good for the gambler
APD333 AMERICAN FOOTBALL RADIO COACH
APD334 SNAKE IN THE GRASS Collect white m
APD347 NOTEBOOK & SHOPPING LIST Easy
APD363 FAMILY HISTORY DATABASE Latest v
APD373 COMPILER 1.34 UPDATE Amos compi

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V

Mas

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PDSCENE

Diving headlong into this month's skipload of Public Domain releases, Tony Horgan casts a dilated pupil over the best of the bunch.

JESUS ON Es
music demo

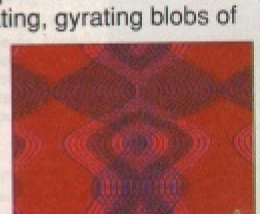




NOW HEAR THIS! LSD's Jesus on Es is the best music demo ever to hit the Amiga! First, let's get the bad news out of the way: to run the demo you need two floppy drives. Now for the good news.

What we've got here is a non-stop 27 minute rave demo, with a killer soundtrack and some of the best visuals you'll ever see. The flavour is hardcore techno with a crispy rave topping, but it starts off with a few smooth bars from Mike Oldfield's original Tubular Bells. In comes the rave breakbeat over the top, and you're just seconds away from the full assault, which crashes in with a big buzzy bassline. The freakout-graphics are synchronised with the soundtrack throughout the demo, combining the audio and visual experiences into one.

Ever onward, the soundtrack chugs away with loads of hands-in-the-air vocal samples, tons of squidgy techno loops, spine-tingling Omen-style choirs, and a constant supply of new drum loops. Meanwhile, the graphics just get better. Zoo TV-style strobes flash up, with all kinds of logos, including a split second appearance from Fat Freddy (of the Freak Brothers fame), with quickfire subtitles accompanying the vocals. Along with the pulsating, gyrating blobs of colour, we're also treated to some brilliant full screen digitised animation loops, featuring skaters, clubbers and gymnasts.



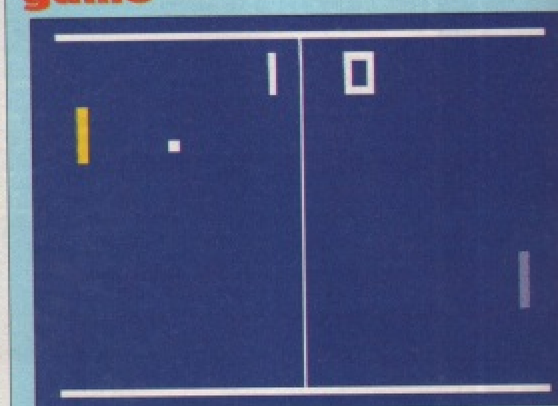


From start to finish, the music never once gets repetitive, and the graphics are still fresh when it all winds down nearly half an hour later. This is absolutely brilliant stuff. SEND FOR YOUR COPY NOW!

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 0924 366982. Disk no. 2268 a+b. Price: £3.00 (including P+P).

97%

PONG
game

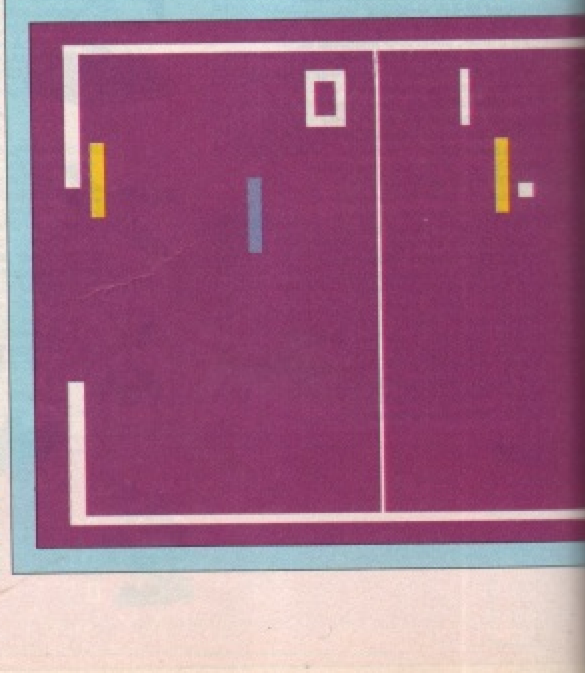


Aah...we were easily pleased in those days. A couple of rectangular bats, a square ball, and we were in TV game heaven. Well it seemed pretty good then, compared to the alternative of a game of Twister with your little brother. Now you can relive those carefree days with *Pong* on your Amiga. There are four variations on the basic bat and ball theme: football, tennis, one-player squash and doubles squash. Don't expect any 16-bit multi-colour hi-res updates on the old games though, they're exactly the same as they were on the TV game consoles.

It's fun for a while, but *Pong* would be best suited to a game compilation or part of some other bigger production, especially as it's only just over 6K (yes, that's just six K!). As a disk on its own, it does seem rather pathetic compared to the better PD game releases, hence the low mark, even though I quite like it.

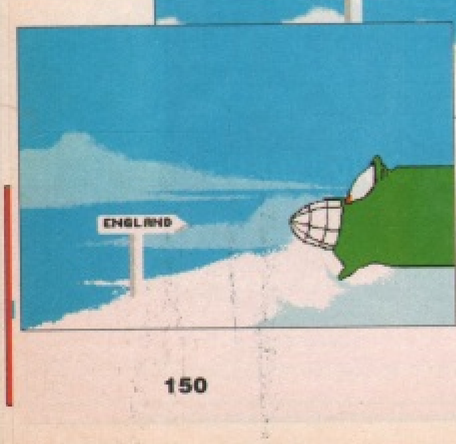
Available from: Claudio Buraglio, PO Box 12, 39012 Merano, ITALY. Price: send disk and return postage.

37%



BATTLE OF BRITAIN
animation





The ghost of Eric Schwartz comes back to haunt PD Scene as many young animators seek to emulate his style.

It's Aerotoons time again! Or is it? Actually, this isn't the latest release from Eric Schwartz, but a new cartoon from Steve Hood. However, the Schwartz-factor is very strong throughout the very brief 25-second animation.

The opening scene has a German bomber chugging through the skies over the Channel, following signposts to England that have been stuck into the clouds. Keeping a vigilant eye out for the enemy, the bomber comes across another signpost, this time pointing back in the opposite direction. Enter a cheeky Spitfire, who wraps up the cartoon by planting a whole load more cock-eyed signposts in the next cloud. It's hardly side-splitting stuff, nor original by any stretch of the imagination, but it's a promising start.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Disk no. 13/A1. Price: £2.50 (including P+P).

50%

FORGOTTEN
slideshow

It's all very well getting a video digitiser and pointing it at a book of fantasy art, but if you really want to impress with a slideshow, you can't beat some good original graphics. Anyone can grab a picture from a book, but to hand draw a collection of pictures like these takes real talent.

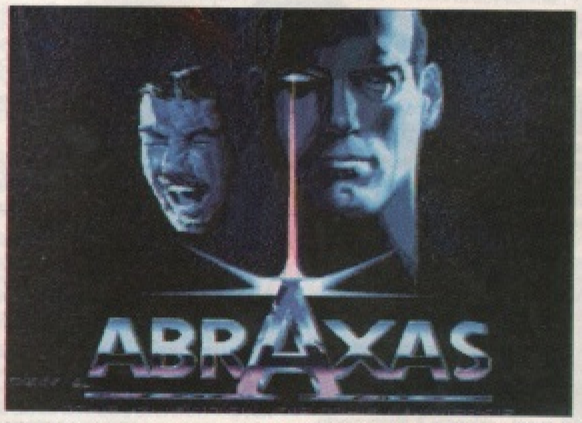
The Forgotten slideshow from Mirage takes a far more professional approach than most, with a very slick picture selector. A roll of cameos scroll up and down the screen under your control, with pictures selected by clicking on the minaturised versions. The pictures themselves have been expertly drawn by hand, with a predictable fantasy theme running throughout. Shaded extremely smoothly in hi-res, these are some of the most impressive graphics I've seen in ages. Each one appears on screen with one of a number of smooth fades, and there's some pleasantly unobtrusive music to back it all up. The quality drops a little in one or two of the pics, but it makes up for the slight inconsistencies with things like the massive two-screens-wide epic, which has to be scrolled under mouse control to get the whole thing on screen.

Available from: Mirage, Citerlaan 3, 3438 CB Nieuwegein, Holland. Price: enclose disk and return postage.

92%











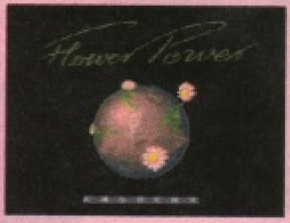
FLOWER POWER
demo

Give me a short punchy demo over a long drab one any day. Anarchy have done exactly that with Flower Power. The ghost of the Trip to Mars animation is back to haunt us once again for the first part of the demo. A couple of simple vector spaceships dart around the streets of a familiar solid-vector city, to the sound of Jarre-esque chords and techno rhythms. Off they go into the inky blackness of space, where we tumble through a bob-starfield of multicoloured asteroids, eventually coming in to orbit a daisy-covered planet, which approaches courtesy of a totally smooth realtime 3D zoom.

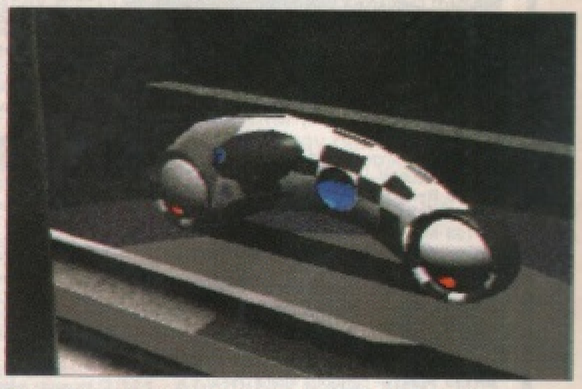
Next up are a few plasma-related vector effects (by this time the music is starting to sound strangely like the Grange Hill theme tune), followed by a clever semi-transparent sphere, which bounces in and out of the screen like a giant soap bubble. It's all rounded off with a nice bit of hi-res fantasy artwork. Not a classic, but a good little stop-gap until the next megademo.

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, W1F 1DH. Tel: 0924 366982. Disk no. 2269. Price £1.75 (including P+P).

70%



SPEED LIMIT
animation



Now that ray-traced demos are no longer impressive simply because they are ray-traced, animators are starting to put a lot more time into the direction of their mini-movies. Needing three megabytes to run, Speed Limit comes from Craig Collins, and although it borrows the ever-popular light cycles from Tron, it's definitely one of the more original and imaginative animations around at the moment.

A futuristic motorway complex is the setting. A couple of hyped-up bikers are locked into a race, when they unwittingly run through a police radar trap. Morphing itself from an innocent-looking splodge on the tarmac, a police bike assumes its true form, and gives chase. A few spectacular tracking shots later, the police bike overtakes the speeding pair, and darts around the next bend, where it morphs once more, this time into a brick wall stretching right across the road. As the victims come careering round the blind bend, the wall comes into view, but it's too late, and they're reduced to a shower of steel shards as they plough into the barrier. A quick morph later, and the police bike is back to its normal state, and off to catch the next felon. You have to watch it through a few times before you can suss out what's going on, but there are some excellent details in there, and the whole thing's got a great spooky atmosphere.

Available from 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 0924 366982. Disk no. 2217 a+b+c. Price: £3.75 (not including P+P).

83%

CASH FRUIT
game

The idea of a fruit machine simulator on a computer sounds pretty silly, but they can be quite good fun if they're done well. Plenty of features, flashing lights, skill stops, hi-lo reels and all that lot can translate well to the computer screen, even though you're not actually winning or losing any hard cash.

Cash Fruit is halfway there, with the usual feature lit up by numbers on the reels, which leads to a number of subsequent features, but it misses the mark on the flashing lights, spinning reels and general novelty value, although it does its best to keep the excitement up with some good stereo-panned sound effects. Worth a look for broke fruity addicts.





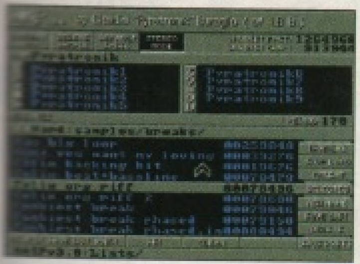
Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Disk no. 13/G4. Price: £2.50 (including P+P).

77%

PD UTILITIES

Tony Horgan, the man with more samples than the Top 40, takes a look at the best new utilities currently circulating the Public Domain.

NASP V3.0
SOUND/SAMPLER



The main problem with sampler programs on the Amiga is that they're just too awkward for a beginner to use. Let's say you're just back from the pub, and you fancy a bit of a rave session. By the time you've messed about loading up samples and stringing them together, everyone's gone home or gone to sleep. This is where *NASP* comes in, giving even a complete imbecile the chance to become an instant rave DJ.

Compared to *MED* or *Soundtracker*, *NASP* at first looks pretty useless. It can't sample, it can't record a sequence, and can't save out modules or song files. What it can do is assign various IFF sample loops to the function keys. You can then play them back by holding down the function keys, up to four at once, or two if you're using stereo samples.

NASP comes with three sets of samples for you to play with, taken from some beefy Italo-techno records. They're grouped into sets of loops from the same record, so that they all play in time and in the same key. F1 could have the bassline on it, F2 could have a keyboard riff, F3 might be assigned to the beat, and so on up to F10. By bringing in and dropping out the loops you can instantly improvise your own remixes. It's so easy to do. As long as you can hit the keys in time with the samples, you can't go wrong!

Samples are played from both Fast and Chip memory, so you can have some really long loops on the go. Simple, easy to use, and excellent fun.

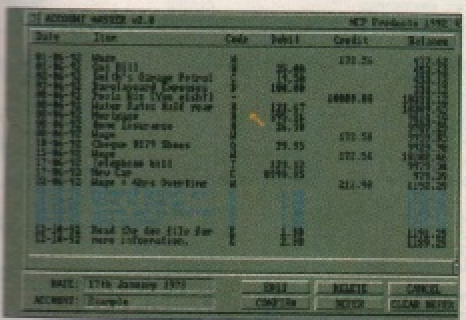
Available from: Megablitz PD, 86 George Street, Newcastle, Staffs, ST5 1DN. Price: £2.00 (including P+P). Compatibility: All Amigas.

90%

ACCOUNT MASTER V2.0
SPREADSHEET

If bills, mortgages and HP are getting you down, you'd better steer clear of *Account Master* – it'll only rub your nose in it. If, on the other hand, you're doing quite well thank you, then you might like to wallow in your financial comfort by keeping a record of your incomings and outgoings.

Although *Account Master* was written in *AMOS*, you wouldn't guess from using it. It's dressed up in Workbench 2-style windows, and uses standard menus and requesters throughout. Home accounts are what it's really aimed at. By entering debits or credits to your account, the program keeps a running total of your balance. Transactions are entered as a date, a description of the transaction, a single letter code specifying the type of transaction, and the amount debited or credited. This is then added to the rest of the account, with the balance updated accordingly. Standing orders can also be accounted for. Tell it when and how much to take out, and using the Amiga's internal clock, as you boot up, the program automatically logs any debits that have taken place since it was last used. Accounts can also be output to a printer. It's well presented and easy to use.



Disk no. 2290. Available from 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 0924 366982. Price £1.75 (incuding P+P). Compatibility: All Amigas.

80%

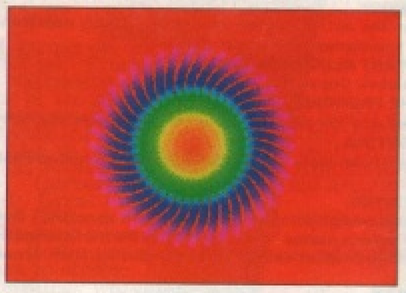
DEL UTILITIES 2
FILE MANAGER/ DEMO CREATOR

Let's face it, when it comes to alternatives to the CLI or SHELL, *SID* has got things all wrapped up – for now at least. Undeterred, PD programmers continue to release their own file managers, the latest of which is *The Amiga Operating Theatre V2.0.* This is the main program on the disk, and allows you to copy files, make directories, display IFF graphics, play sound samples, view ASCII text files, read directories, play *Soundtracker* modules and test the switches on your joystick. All of these features are accessed via a neat control panel, so even a complete novice can use it. Operating Theatre is quite a way behind the latest release of *SID* in terms of power and features, but it's good to see alternatives still cropping up.



Also on the disk is a program called Cycle Play V1.0, a kind of instant rave demo maker. Load any standard *Soundtracker* module (there's no *MED* or *Protracker 2.0* support), and it plays your module while flashing up a barrage of multi-coloured strobing patterns.

Disk no. 13/U1. Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Price: £2.25 (including P+P). Compatibility: All Amigas.



71%

LYAPUNOV
FRACTAL GENERATOR

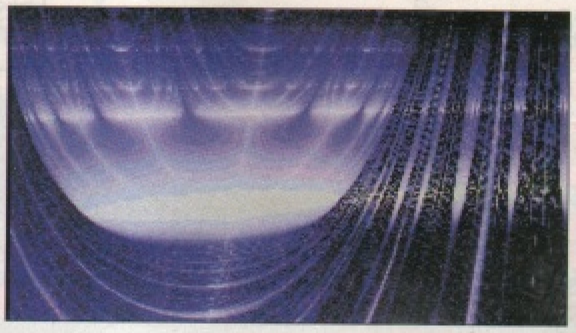
Once you've seen one fractal-generated picture you've seen them all, right? Well, that's what I thought, until I booted up the curiously-named *Lyapunov*. Although it's just a simple two dimensional fractal graphics generator, it manages to come up with a very different style of image. Instead of the usual big blob surrounded by little blobs, with *Lyapunov* you get weird algae-like growths.

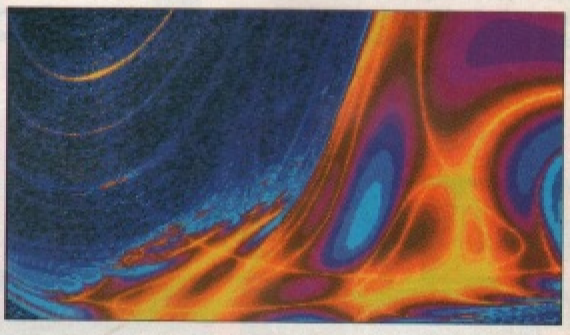
There's a slideshow on the disk, which runs through a selection of images created with the program. You can change the palette, the size, and the algorithm used to generate the graphics, but perhaps inevitably, they all come out looking much the same as each other. Still, it makes a change from the hackneyed old fractals we're used to.

Disk no. 13/U3. Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Price: £2.25. Compatibility: Not Plus.

71%









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- **SAVE PICTURES AND MUSIC TO DISK** Pictures and sound samples can be saved to disk. Files are saved directly in IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.
- NEW **PAL or NTSC MODES SELECTABLE** - Useful for removing ugly borders when using NTSC software. (Works only with newer Agnus chips).
- **SLOW MOTION MODE** Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!
- NEW **MANY MORE INSTANT CLI COMMANDS** - like Rename, Relabel, Copy, etc.
- **RESTART THE PROGRAM** Simply press a key and the program will continue where you left off.
- **FULL STATUS REPORTING** At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.
- **POWERFUL PICTURE EDITOR** Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!
- NEW **JOYSTICK HANDLER** - allows the user to select Joystick instead of Keypresses - very useful for many keyboard programs.
- **MUSIC SOUND TRACKER** With Sound Tracker you can find the complete music in programs, demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!
- **AUTOFIRE MANAGER** From the Action Replay III preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!
- NEW **IMPROVED RAM EXPANSION SUPPORT.** Now many more external Ram Expansions will work with all Action Replay III commands.
- **DISKCODER** With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. "Tagged" disks will only reload when you enter the code. Very useful for security.
- NEW **SET MAP** - allows you to Load/Save/Edit a Keymap.
- **PREFERENCES** Action Replay III now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.
- **DISK MONITOR** Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.
- NEW **IMPROVED PRINTER SUPPORT** - including compressed/small character command.
- **DOS COMMANDS** Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.
- NEW **FILE REQUESTOR** - if you enter a command without a filename, then a file requestor is displayed.
- **DISK COPY** Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.
- NEW **PLUS IMPROVED DEBUGGER COMMANDS** - including Mem Watch Points and Trace.
- **BOOT SELECTOR** Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.





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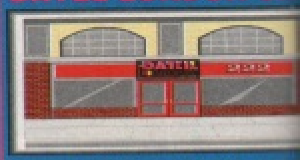
- Full M68000 Assembler/Disassembler • Full screen editor • Load/Save block • Write String to memory
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- Disk handling - show actual track, Disk Sync. pattern etc. • Dynamic Breakpoint handling
- Show memory as HEX, ASCII, Assembler, Decimal • Copper Assemble/Disassemble - now with suffix names

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

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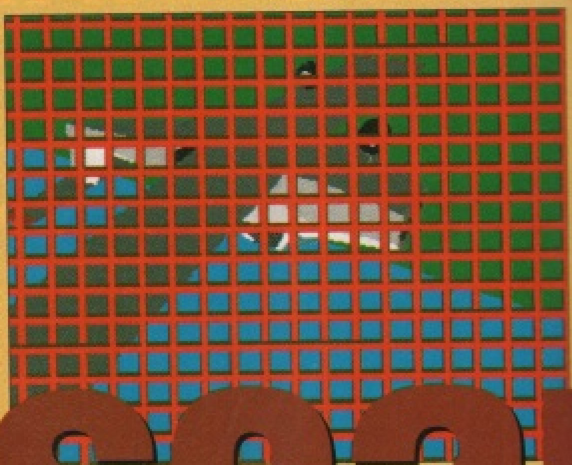


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A/F AAR IIIc







Videoscap

With the November '92 issue we gave away the commercial 3D animation program Videoscape 3D. This month we'll conclude the tutorial series with a look at some of the program's more advanced features.

BACK AND FOREGROUNDS

If you've been following the previous tutorials, you may be wondering how you can create a more convincing scene for your animations. The simple sky and ground combination is okay for some applications, but if you want to give your creations a professional look, you should add your own backdrops. Any standard IFF picture file can be loaded as either a background or a foreground.

To see how it works, set up an animation sequence as we discussed in the December issue. Before running the animation, click on the LOAD BACKGROUND box. Find any disk with an IFF picture file, and put it in any drive. Select the picture from the file requester, and then run the animation as normal, by clicking on BEGIN ANIMATION. You'll notice that all your 3D objects are overlaid on the background picture. If you clicked the LOAD FOREGROUND box instead, the picture would be laid over the top of the animation. The animation will only show through the parts of the picture that are filled with colour zero, the background colour. Any other colours have priority over the images behind.

PLACING THE LIGHT SOURCE

Although *Videoscape* doesn't ray trace, it does use light sources to give realistically shaded surfaces. By clicking on the SOLID box, you can define the direction and intensity of up to four light sources. A window will appear with slots for the X, Y and Z orientations of each light source, along with their respective intensities. The co-ordinates are all relative to the origin, the centre of your world.

EGG AND CHIPS

Until you've got the hang of using the ROT editor to make your own objects, you may find the EGG (Easy Geometry Generator) utility saves a lot of time. Double-click on the EGG icon from the *Videoscape* disk window. A CLI window opens up, giving you the option of creating any one of nine base objects. Enter the number of the object you want and press RETURN. Depending on the type of object, the program will ask you for a few sets of co-ordinates, to define the size and shape of your creation. Have your Videoscape disk write-enabled (with the tab closed) in the internal drive, so that EGG can save the object in the GEO directory. You can then load your new object into the main *Videoscape* program.

3D MORPHING

Morphing is the smooth transformation of one shape into a new shape, carried out over the span of one complete scene. To use this effect, you first load one object into *Videoscape* and then load another. Then select the YES button labelled METAMORPH LAST TWO OBJECTS? in the OBJECT DESCRIPTION panel of the control window. The only prerequisite is that the two objects have the same number of points. When the scene is run, the metamorphosis takes place.

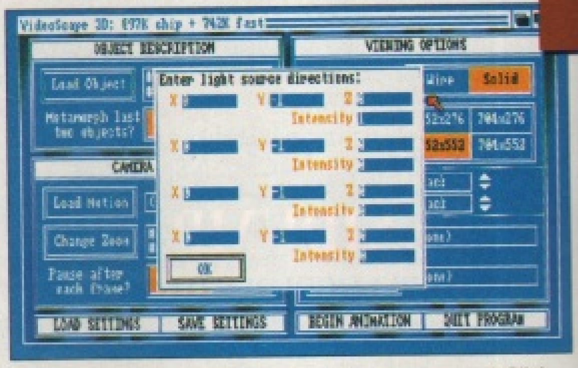
When *Videoscape 3D* morphs an object, each point in the second to last object loaded simply moves in a straight line toward the corresponding point in the last object loaded, getting there at the end of the scene. Point 0 moves towards the new point 0, point 86 goes to the new point 86 and so on. Be prepared for some strange results if your corresponding points are on opposite sides of your objects. Surfaces will 'pull through' one another as they move to their new positions!

The more involved task is the creation of two objects with the same number of points, but with EGG and OCT it needn't be too difficult.

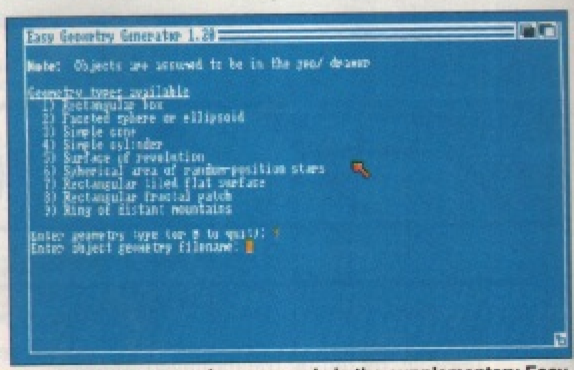
1. First create an object to your desired specifications using EGG.
2. Load the object into OCT and use the scaling feature to squash or stretch it into a new shape.
3. These two shapes can now be used as the 'before' and 'after' shapes for a morph. The original object that you alter with OCT could just as easily be a hand-made creation, since OCT does not alter the number of points or polygons in objects that it distorts.

An alternative means of creating two morphable objects once again involves EGG, but in this case you won't necessarily be using OCT.

1. Run EGG and create the object of your choice and specifications. Take careful notes on the values you enter in response to all of the prompts.



Dramatic lighting can improve a scene's impact no end. Click on the SOLID box to bring up the requester and input your own choice of light source direction.



Another short cut can be accessed via the supplementary Easy Geometry Generator (EGG) utility, which can save you precious time by automatically creating cubes and cones.

2. Restart EGG and select the same type of object. This time you use the same answers for prompts that affect the number of points and polygons (such as number of rings and number of points per ring), but different values for things that don't affect them. These are such things as maximum Y values and radii. As a note of interest, fractal patches always have 289 points.

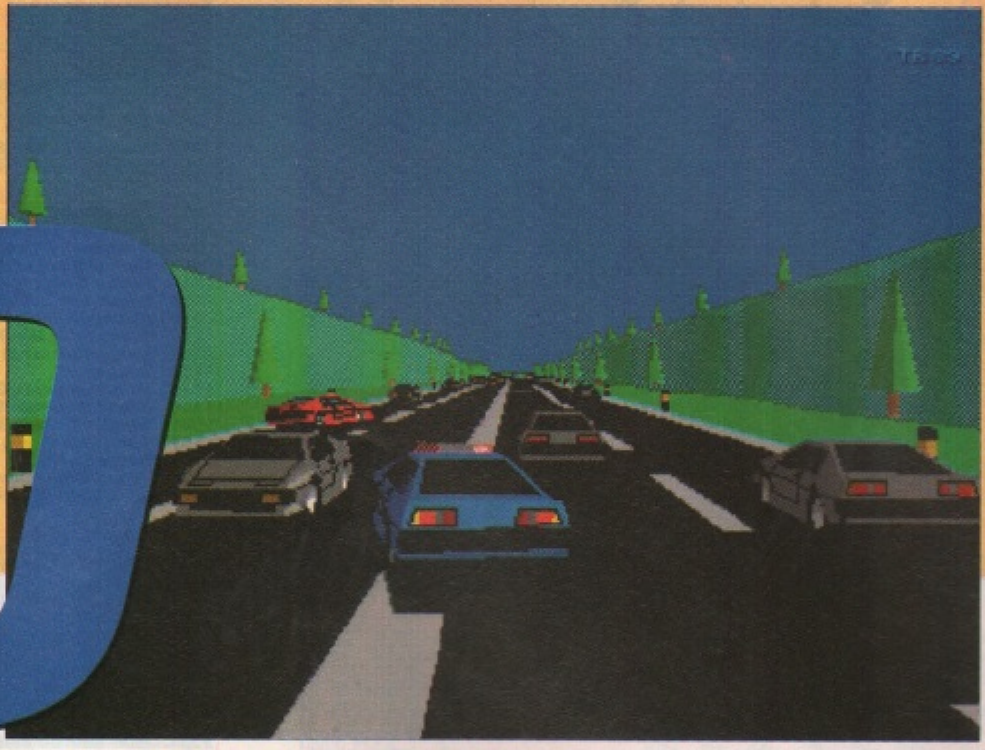
COLOUR CODES

At times you'll have to input the colours of your objects in the form of numbers. Here's a list of the available colours and their corresponding numbers.

COLOUR	MATTE	GLOSSY	UNSHADED
black	0	16	32
dark blue	1	17	33
dark green	2	18	34
dark red	4	20	36
brown	6	22	38
grey	7	23	39
light blue	9	25	41
light green	10	26	42
light red	12	28	44
yellow	14	30	46
white	15	31	47

Far left: Adding backgrounds to your animations spices them up no end. Take the computerised edge off them by importing backdrops from *Deluxe Paint*.

Left: Foreground overlays can also be used to good effect. The animation will show through the holes in your overlay, so you can easily come up with cockpit or window effects.



Here's an example of how you might want to override the automatic rendering order. If the road was drawn last, it would obscure the cars, so you have to make sure it gets first priority on the rendering list. By the way, this is taken from Tobias Richter's excellent demo The Run. Check out this and some of his other early work to see just what's possible with *Videoscape 3D*.

3D ADVANCED TECHNIQUES

The two objects so treated may be distinctly different in size and shape, but they will have the same number of points and can be successfully morphed.

Now let's have a look at some specialised techniques with *Videoscape* that might not be obvious at first. Some of these are tricks for achieving certain visual effects that would be impossible or very time-consuming to accomplish by simple methods, so don't try them until you've mastered some more basic scenes.

1. QUICK SCENE RENDERING

Fixed camera scenes that have complex, non-moving background objects (like a city or a fractal landscape) can often be rendered faster by first capturing a view of the background objects as an IFF image, using the '.' key on the numeric pad. When generating the final scene, use the IFF picture as the background instead of making *Videoscape* render the objects themselves. Be sure to put the IFF file in the RAM disk before animating the scene.

2. POLYGON RENDERING

Sometimes it's desirable (for hidden surface reasons) for particular polygons to be rendered before everything else. For example, to show a car on a stretch of road, the road should be drawn first (otherwise it might obscure part of the car). Since polygons are sorted by their distance from the camera, incorrect sorting can occur if the car is further from the camera than the centre of the large polygon representing the road. To prevent any such problems, the road polygon can be made into a detail of a distant polygon (detail polygons are allowed to be far away from their 'parent' polygons). This works because the distant polygon is drawn first, immediately followed by its details (in this case the road). The distant polygon itself can be hidden by making it ground colour.

3. SHADOWS

To make an object appear to cast a shadow on the ground, create a new object consisting of a single polygon. The polygon should have the same top view outline as the original object, but it should lie flat on the ground (its Y co-ordinates should all be zero). For best results, use a darker shade of the ground colour for the shadow. If the shadow will pass over different ground colours in the same scene, black can be used. Also, the shadow polygon may have to be subdivided if show-through problems occur. Give the shadow a motion that will keep it directly under the original object. More complex variations of this method can be used if the lighting direction is not straight down or if the original object changes pitch or bank during the scene (in which case the metamorph feature might be useful).

4. REFLECTIONS

You can portray mirror reflections in Videoscape. As an example, an object can be shown reflecting off the surface of a pond by adding an upside-down version of the object below the water-level. Use an IFF foreground painting to represent the ground with a transparent area for the pond itself. When setting up the scene with the control window, set both background colours to the desired sky colour, and load the main object. Then load a copy of it which is flipped over and place directly under the original object, as far below the pond as the original object is above it. From certain viewpoints, the second object and the background colour will appear through the hole in the foreground painting, creating the illusion that the original object and the sky are being reflected by the water. Symmetrical objects like spheres are the easiest to use, since they can be flipped simply by specifying a pitch or bank angle of 180 degrees. Also, the lighting direction should be parallel to the reflecting surface, so that the shading on the reflection will match that of the original object.

5. CHANGING PIVOT POINTS

There are two ways to make an object move along a circular path. The standard method is to create a motion file containing several key points around the circumference, letting *Videoscape*'s smooth interpolation move the object between these points. A more precise, but less general technique, is to use OCT to make a special object just for the scene in question. The new object should be a copy of the original object, but displaced by an equal amount to the radius of the intended circular path. Making the new object move is now as easy as changing one of its rotation angles. No position changes are needed, since the pivot point is now stationary. As an example, an airplane can be made to perform an inside loop by lowering it down the Y axis by the radius of the loop (using OCT), and then changing its pitch angle from 0 to – 360 during the scene. Modifying pivot points with OCT is a very useful technique. By carefully placing the pivot points of several objects, jointed mechanisms such as mechanical arms can be modeled.

6. METAMORPH EXAMPLES

Jointed object motion can also be simulated by using the metamorph feature, as long as the objects don't have to be perfectly rigid. To do so, simply set up two or more configurations of a multi-part object and morph between them, stringing several scenes together if necessary. Even a walking figure could be animated this way.

Another metamorph trick is to build extra points and polygons into an object, hiding them by making them co-planar with (and the same colour as) the rest of the objects surfaces. Such a deceptively simple object can then be morphed into a much more complex-looking object. Many more metamorph ideas are waiting to be discovered.

7. INSTANT OBJECT APPEARANCE AND REMOVAL

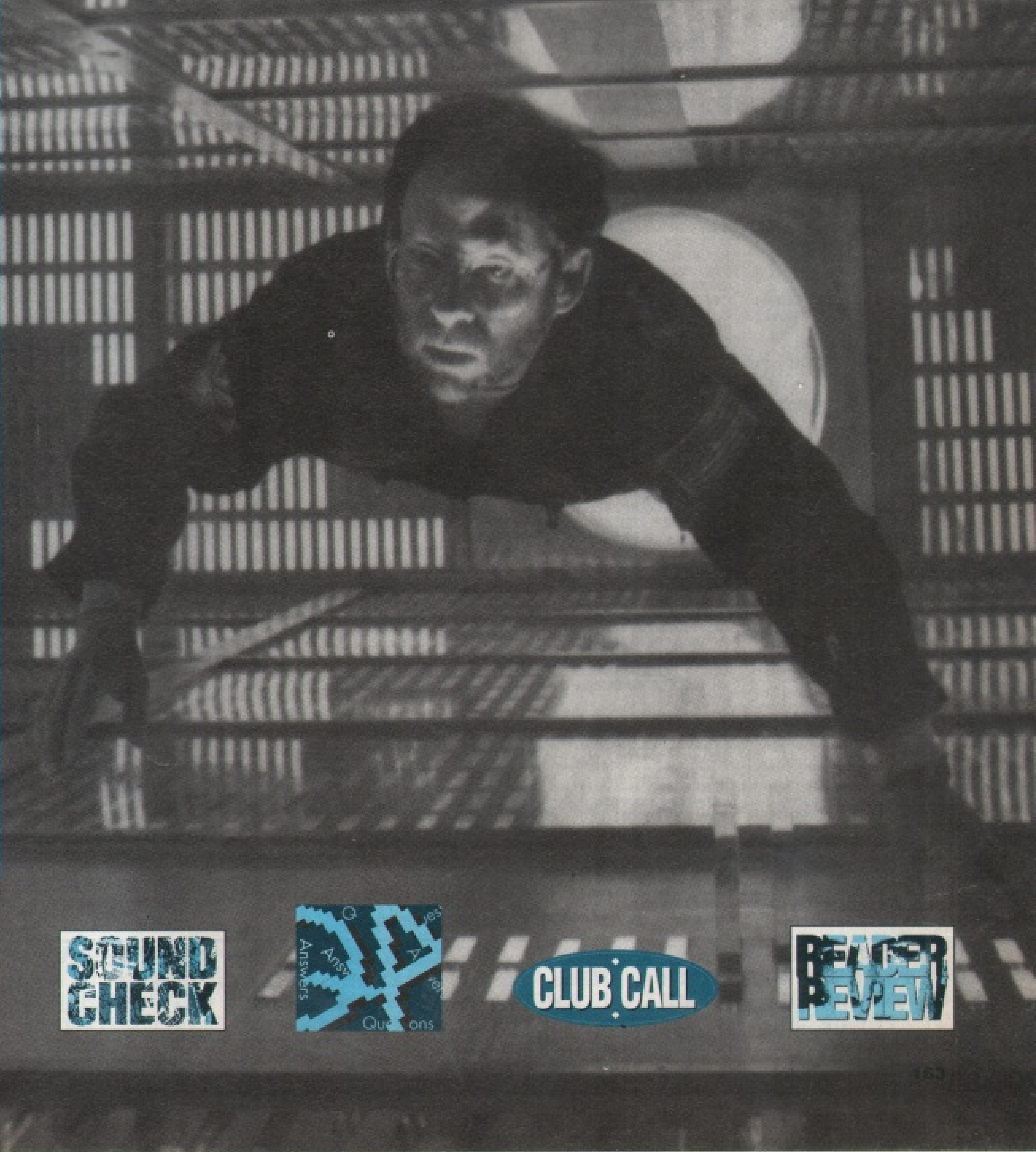
A none too obvious use of the linear motion interpolation option is to cause an object to suddenly appear or disappear in the middle of a scene. Objects can be kept out of sight by placing them behind the camera. When they are to appear, they can be instantly moved where they're needed by using a one-frame-long tween in their motion files. Objects can be instantly removed in the same way. An object can suddenly change into something else by combining the appearing and disappearing techniques. To prevent *Videoscape* from trying to smooth out these motions, it is important to specify linear interpolation in the motion files by making the tween lengths negative. Possible applications of these ideas include simulating lightning bolts, spacecraft steering thrusters, or flashing warning lights.

So there you have it. For examples of the kind of things *Videoscape* can do when it's pushed, check out some of the early animations from Tobias Richter, such as The Run or F15. Who knows, with a bit of imagination and a fair bit of sweat, maybe you too could become a legend in your own trousers.

AMIGA Workshop

ISSUE 2 JANUARY 1993

Welcome to the second issue of Amiga Workshop, the place to find all the info on those slightly serious subjects. The revamp continues as we drift inexorably on toward the day when all will change.



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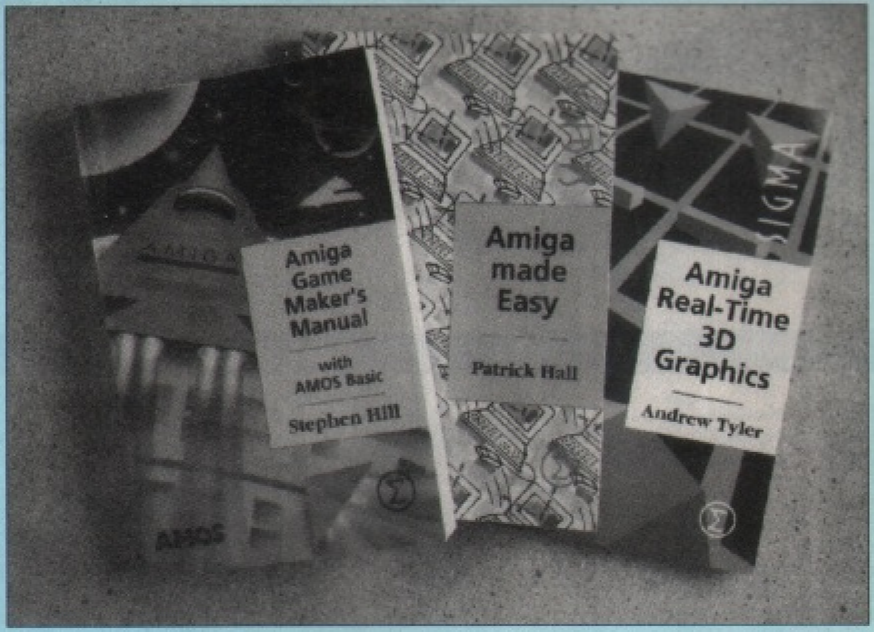
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Sigma Press already have a wide range of computer books and this month three new Amiga titles come under the microscope. Paul Overaa dresses in a white coat and puts them in focus.

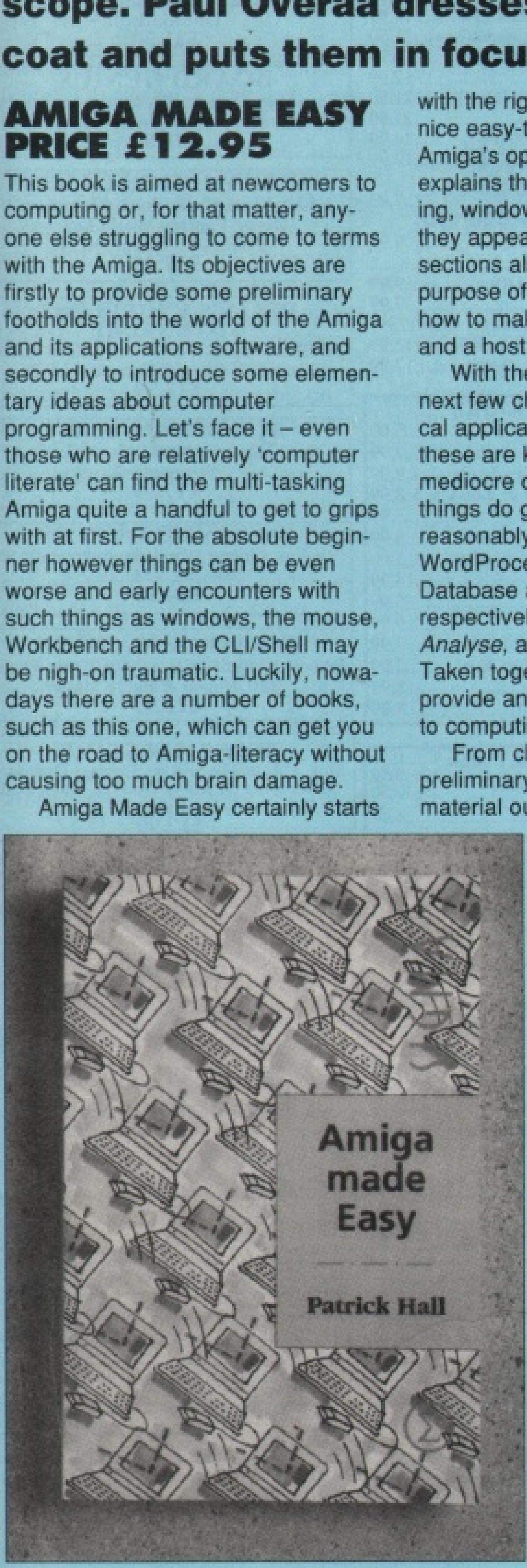
AMIGA MADE EASY PRICE £12.95

This book is aimed at newcomers to computing or, for that matter, anyone else struggling to come to terms with the Amiga. Its objectives are firstly to provide some preliminary footholds into the world of the Amiga and its applications software, and secondly to introduce some elementary ideas about computer programming. Let's face it – even those who are relatively 'computer literate' can find the multi-tasking Amiga quite a handful to get to grips with at first. For the absolute beginner however things can be even worse and early encounters with such things as windows, the mouse, Workbench and the CLI/Shell may be nigh-on traumatic. Luckily, nowadays there are a number of books, such as this one, which can get you on the road to Amiga-literacy without causing too much brain damage.

Amiga Made Easy certainly starts with the right approach – namely, a nice easy-to-read introduction to the Amiga's operating system, which explains the benefits of a multitasking, window-based, environment as they appear to the user. The early sections also discuss things like the purpose of the Preferences program, how to make backup copies of disks, and a host of other useful things.

With the machine introduced, the next few chapters look at some typical applications. Unfortunately, these are kicked off with a relatively mediocre chapter on games, but things do get better and there are reasonably useful introductions to WordProcessing, Spreadsheets and Database applications (based respectively on the *Scribble*, *Analyse*, and *Organize* programs). Taken together these early chapters provide an easily read introduction to computing on the Amiga.

From chapter 8 onwards, with the preliminary environment/applications material out of the way, the book moves on to some real Amiga programming. The Basic language provides the vehicle for the discussions and here, at least as far as the current batch of Amiga newcomers are concerned, we hit a major problem – because the chapters, although perfectly well written, are based around the use of Microsoft's Amiga Basic. This of course was dropped with the advent of the A500+ and is no longer supported or provided with the Amiga's system software.



To be honest, some of the early programming material, code-wise, is equally applicable to any Basic-type language but there's no doubt that the continual references to the now defunct Amiga Basic do tend to date the book right from the word go. Nevertheless, there are some good general discussions of topics such as subroutines and program structure, if-then-else decision making and logical AND/OR type operations. There are also useful beginners tips on how to plan and design programs and some larger graphics-based examples which show very clearly the benefits of writing properly structured programs. One chapter, which deals with some simple artificial intelligence and machine learning ideas, is particularly interesting but again is marred by the fact that Microsoft's Amiga Basic has been used.

To be honest, once you have a little Basic experience under your belt it is usually quite easy for programs written in one type of Basic to be converted to another. Certainly there are plenty of similarities between, say, HiSoft Basic and Microsoft's Amiga Basic but unfortunately most newcomers are easily thrown by even trivial language differences, so trying to use the Amiga Made Easy text with other Basics can't really be recommended as providing an ideal start for the beginner.

Having said that, things may turn out to be better than predicted. Quite a lot of the Amiga-users who did get Amiga Basic ARE still using it. Moreover, there are doubtless some people who have Amiga Basic but who have so far been afraid to 'have a bash at programming'. Amiga Made Easy can certainly provide anyone in that situation with a suitably gentle push in the right direction and who knows – if it did encourage a few of those latent programmers to come out of the woodwork someone amongst them might decide to get Commodore to change their mind about Amiga Basic!

Amiga Made Easy is not a badly written book by any means and two years ago I would have heartily recommended it. Should Commodore decide to re-start bundling Microsoft Amiga Basic with their machines I would do so again but at the moment I suspect the book will find that, through no fault of its own, it has a limited audience.

AMIGA GAME MAKER'S MANUAL PRICE £16.95

There are certainly no language reservations about this book because *AMOS* is undoubtedly the most popular Basic-styled language available on the Amiga today and this book is an *AMOS* programmer's goldmine. The early chapters provide a whole host of graphics-orientated notes which not only explain about using general *AMOS* graphics functions but include tips about things like using strings to store RGB colour triplet values and hints about setting up colour palettes. Custom screens, Sprites, Bobs and AMAL (the *AMOS* animation language) are introduced early on and right from the word go this offering comes across as very much a 'hands on' type of book.

The code examples are good with plenty of comments, use of procedures, etc. and it's quite clear that Stephen Hill scores over many other *AMOS* offerings because he's writing about a programming area that he both enjoys and, perhaps more to the point, knows about. The Amiga Game Makers Manual is an apt title because it is not just a guide to games programming – both the technical and commercial sides of the 'game making' business are covered and the book is full of tips about game planning and design. Getting the initial ideas, producing initial sketches for artwork etc. You name it and, if it's related to games programming, you are likely to find it in this book.

Another area that is covered in some detail is the translation of a detailed, but general, game description to real code. There are good accounts of how you identify the

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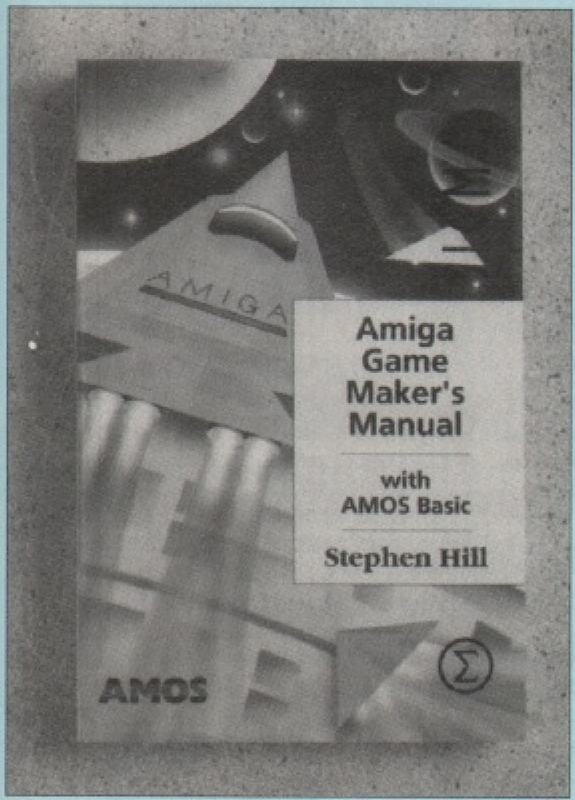
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major routines, produce pseudocode descriptions, and generally break things down until you have sufficient detail to start coding. One particularly useful area of the book looks at particular types of games and explains how they can be implemented. A chapter on Arcade games, for instance, provides notes about using both static and algorithmically generated movement tables (these are essentially lists of position co-ordinates which can be used to specify the path of a particular object). There are similarly good chapters on adventure games and role-playing games and, rather surprisingly, an easy-to-read introductory chapter on simulation techniques.

One of the nice things about *AMOS* is that it allows you to do a number of relatively complex things without having to get involved with the underlying Amiga system issues. Anyone who has written scroll routines in C or assembler, for instance, knows how dirty 'real life' scrolling can become and being able to do those types of things effortlessly, and without leaving the *AMOS* language, is like a dream come true to many coders. I can honestly say that the chapter on scrolling techniques provides some of the best high-level explanations of scrolling I've ever come across. There are details of *AMOS*-style double-buffering, of rotating information by copying sections of the screen during the scroll, and even examples of parallax scrolling.

Another chapter provides the same sort of help with animation techniques and towards the end of the book you'll find some help with the sound and music aspects of Amiga games programming. Amongst the appendices you'll even find notes about how to go about selling your programs to companies that specialise in commercial games.

There are some disappointments. A number of facilities, such as the *AMOS* Interface language, which are provided with the new *AMOS Professional* do not get covered. I doubt whether this material would have been left out had it been available in time but obviously the book was in an advance state of preparation before *AMOS Professional* came on the scene. Fortunately, however, this book contains enough good material so as to be virtually flameproof as far as such omissions are concerned. Stephen Hill has put a lot of work into this book and it shows – if I had to recommend just one book to the aspiring *AMOS* games programmer at the current time, this would be it!

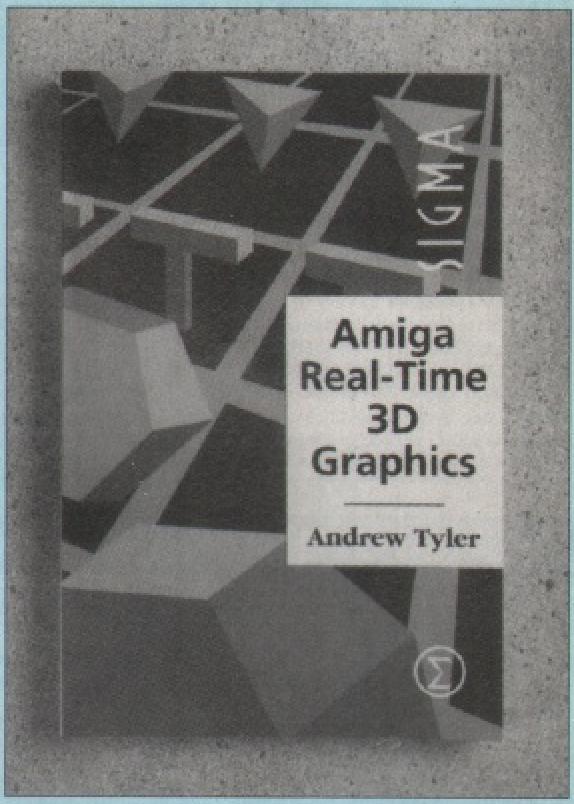


AMIGA REAL-TIME 3D GRAPHICS PRICE £12.95

This is a great book but you should be aware at the outset that it is aimed at serious Amiga graphics coders and is not really suitable for the outright graphics beginner. Having said that, the early parts of the book do discuss quite a few general 3D graphics terms and introduce the idea of co-ordinate systems, vectors and matrices, frames of reference for 3D objects, edge lists and so on. There are also some reasonably useful discussions on the Amiga's colour-indirection bitplane scheme.

Real time 3D graphics on a standard Amiga obviously need every ounce of speed that's available, so it is not really surprisingly therefore that the examples in this offering have been written using 68000 assembly language. In other programming areas this might have tended to limit the potential audience but most programmers who are interested in graphics do get into 68k coding quite quickly (in fact there seems to be an ever increasing number of 68K Amiga coders floating around nowadays).

The Bresenham line drawing algorithm, which offers a fast and elegant way of drawing a line between two points, provides the first technical graphics discussion of the book. One example program is included and since a number of associated routines are used in later examples some fairly detailed explanations of the routines are provided. Discussions of certain system areas, such as low-level use of the Blitter, etc. are provided but to a large extent readers are expected to have access to, and be familiar with, the appropriate Amiga system documentation. (To all intents and purposes this means the Addison Wesley ROM Kernel and Hardware Reference manuals).



Mr Tyler tends to take a few liberties with his Amiga code and he does, for example, frequently make system calls using numeric flag values instead of the system-defined symbolic values that we all know and love. In what is presumably in the interests of speed he also does not always test library function success/failure return values. Self-styled header files are used to define things like library call LVO values rather than opt for exec_lib.i and amiga.lib link-based solutions but most 68k coders do this sort of thing from time to time so I'm not going to niggle too much. It's actually quite good fun sorting out what's going on and let's face it – none of these coding quirks are going to cause the intended readership any trouble whatsoever. Code-wise a lot of interesting material is provided and almost right from the start of the book generally useful goodies are thrown in. Chapter three for example, which deals with screen drawing, includes some nicely documented routines for polygon filling. Another elegant and important technique, which gets a suitably detailed treatment later in the book, is the Sutherland-Hodgman clipping algorithm. A lot of the general routines that Andrew Tyler has developed are, of course, 68000-specific rather than being totally Amiga-specific but that is exactly as things should be when writing assembler code.

Matrix/vector techniques and terminology do not really come into the picture until you get about one third of the way into the book. There are chapters on perspective transforms and rotation which are quite good and although the relative matrix descriptions of the transformations are provided the mathematics are not really discussed in detail. A couple of appendices are provided which deal with a number of essential mathematical ideas.

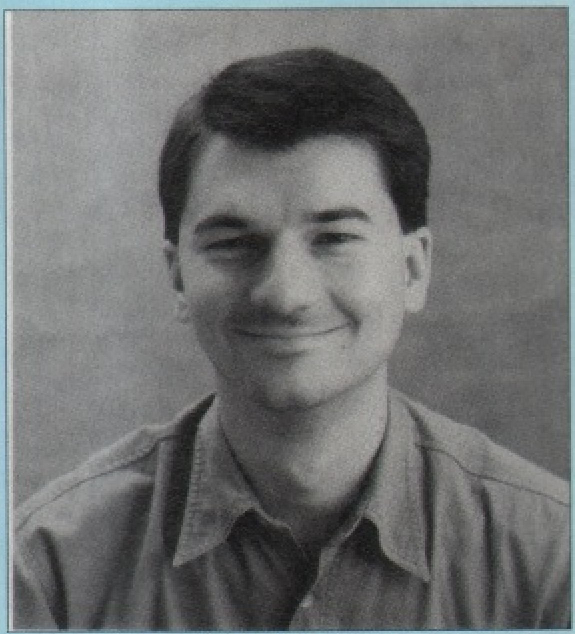
During the course of the book a lot of standard topics (hidden surface removal, scaling, shearing, reflection, inversion and so on) get covered and towards the end there are a couple of chapters which look at the issues involved in creating flight simulator-type programs. There are some good common-sense explanations of the topics and enough theory and general ideas to make the book extremely useful. From a mathematical viewpoint readers get off quite lightly and an acquaintance with, say O-level type two-dimensional matrix operations will enable the gist of the various three dimensional transformations to be understood. If, by choice, you prefer to be 'mathematically lazy' then you can of course just use the assembler routines as written without worrying too much about how they work!

The examples in the book have been written using Devpac and are available on disk (£9.85 including UK postage). I think it's fair to say that anyone buying the book needs to get the disk right from the start because typing in, and assembling, pages of 68000 code is always a nightmare (typo's, missed lines, and all sorts of other horrible nasties creep in). Although Devpac has been used the book is not in any real sense Devpac specific and the translations needed if using other assemblers are quite trivial.

Amiga Real-Time 3D Graphics is an interesting, and quite specialised, book that deals with a subject on which very little Amiga specific material has been published. Although the subject matter by its very nature is relatively heavy going, serious programmers will be able to get a lot out of this book. They will, however, undoubtedly have to work quite hard to do so and that, incidentally, should not be construed as a criticism – it's just a fact of 68000 life!

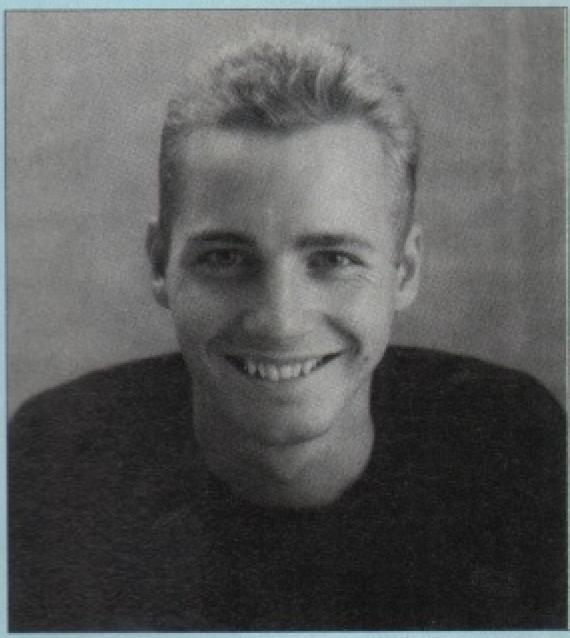
CREATURE FEATURE

Just the thing to clear the New Year's Day hangover – a load of ugly mugs peering from the pages of your favourite mag. If that wasn't enough, we then subject you to a load of fictional copy detailing the exploits of the Number 1 team.



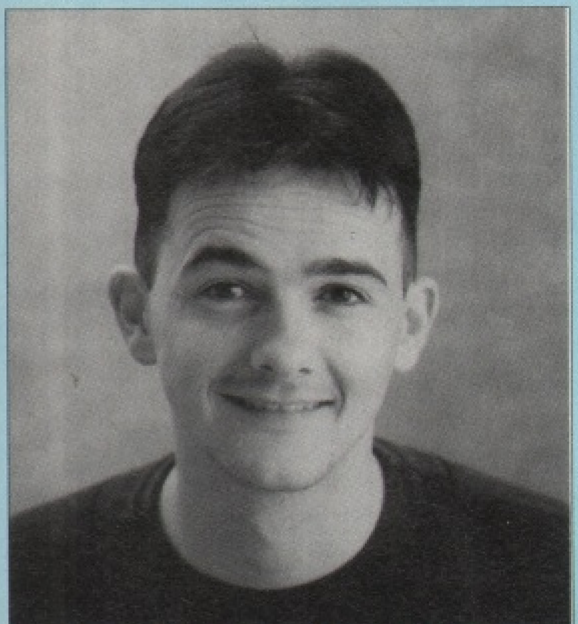
STEVE 'BOWLY' PRIZEMAN

The man with the worst haircut in the world has not taken kindly to his new 'Bowly' nickname. In fact, he even threatened to introduce us all to his barber – a porcelain pudding basin and some hedge cutters. In between keeping his barnet neatly groomed, our dapper young staff writer has been writing his own short stories. These revolve around the super natural or are crime-related. He's even carried off third prize in his local paper's short story compo. New year's resolution: To find a decent barbers.



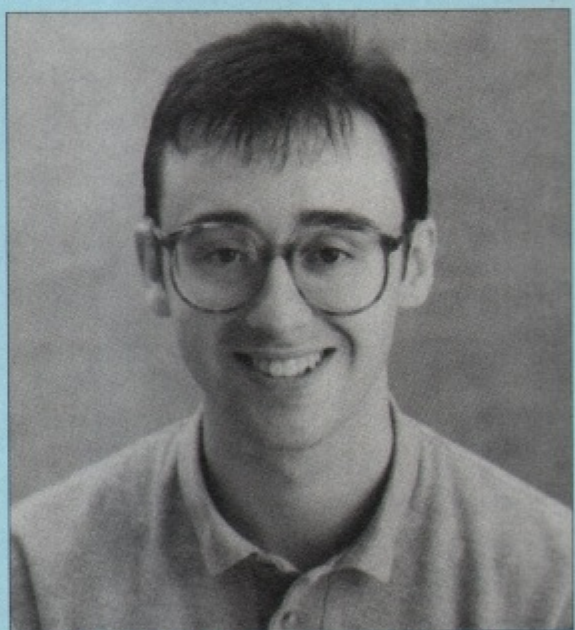
TONY 'COVER MODEL' HORGAN

Tony has undertaken his first modelling assignment. No, it wasn't for Fangoria, but for sister magazine, ST Review, who were incredibly sad and cheap and refused to pay for a real model. Yes, it really does signal the death of the ST market, I'm afraid. Unfortunately, it also seems to be the end of an era for him and his much-travelled VW Van, which sits rusting in the street, waiting to be flogged off to anyone mug enough to take it. New year's resolution: Hoover the bedroom floor.



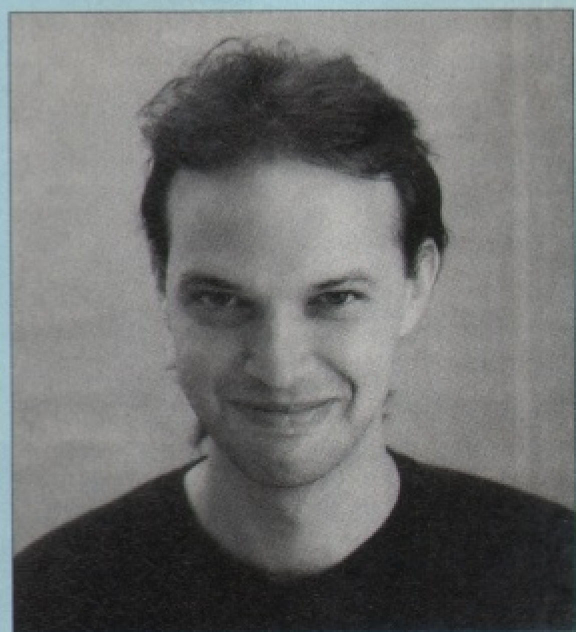
DAN 'TWO DRINKS AND HE'S ANYBODY'S' SLINGSBY

It's been a quiet month for Dan as he's finally managed to snatch a week's holiday – his first for 18 months. The sad thing is, he still came in every day to finish off a book he's writing. What is this literary masterpiece? Could it be some mighty tome that's set to shake the literary world to its very foundations? Fat chance. In fact, it's a huge 350-page hints and tips book for Amiga games. Buy yours soon (plug, plug!). New year's resolution: To get a proper job in the real world.



JONATHAN 'CHIP' SLOAN

The man who bares an uncanny resemblance to a Chipmunk has been busy organising his wedding. Jon and his intended, Claire, are jetting away for a romantic wedding ceremony on the beach of St. Lucia in the Carribean. And, the best bit, the little village where all this is to happen is called (wait for it!) Couples. Ahhhhh. Apparently, Jon got on one knee during a romantic ballad at a Paul McCartney concert. You're all probably as speechless as we were when we found out! New year's resolution: To burn his girlfriend's Paul McCartney record collection.



NICK 'WHERE IS HE?' VEITCH

Our Tech Ed has been left alone in the Amiga lab with his A4000 where he has lived for the last three weeks. Nick is still bikeless after his machine was nicked from outside the offices and has had to get used to using public transport. Unfortunately, this has given him yet another excuse for turning up late for work. He's also been practising his knife throwing skills for the upcoming Gamesmaster Live show so he can have some fun with the kids. New year's resolution: To turn up to work on time (this will be easily broken the first day back at work).

C FOR BEGINNERS

If programming is what you want to do most, you've come to the right place. Let John Kennedy help you function properly in part two of his C tutorial.

PART 2

FUNCTIONS

The C language contains a very small number of instructions, which can sometimes lead to the false impression that it's not a very powerful programming language. The trick up the sleeve of Dennis Ritchie is the ability of C to provide your own new commands, called 'functions'. Once defined, a function can be used like any other C programming instruction – you can even pass values into it, and receive values back from it.

A program written in C is a collection of functions, all passing data back and forth between themselves. A well-written program has functions which perform definite tasks, preferably in such a way that they can be re-used at a later date – sometimes by a completely different program.

Let's take for an example a breath-takingly simple program which prints 'CUAmiga' on the screen. Instead of taking the sensible approach and using the 'printf' statement from within the 'main()' function, I have split the program up so that the text is printed by a function of its own. The function defined is very basic, and neither expects nor returns any data. The program looks like Table A.

TABLE A

```
/* First function example
*/
void print_text()
{
   printf("CU Amiga!\n");
}
main()
{
   print_text();
}
```

Our main program – contained in the function called 'main()' – now consists of no real code, just a single function call. You must understand that although the flow of control in a program usually heads downwards, the 'printf' statement in the function is not going to be reached until the function called 'print_text' is called. If the 'main()' function looked like Table B then nothing would happen. Alternatively, if the 'main()' function looked like Table C then the print function would be called twice. If in a peak of programming madness we suddenly went function mad, we could further split our program up to provide two functions (see Table D).

TABLE B

```
main()
{
}
```

TABLE C

```
main()
{
   print_text();
   print_text();
}
```

Again, if the 'main()' function didn't call these functions, they would never get called. Here are some more function facts:

TABLE D

```
void print_cu()
{
   printf("CU ");
}
void print_amiga()
{
   printf("Amiga!\n");
}main()
{
   print_cu();
   print_amiga();
}
```

1. The functions must be defined before the 'main()' function. If you define them after 'main()', they will not be recognised and your compiler will return error messages.

2. The functions have the keyword 'void' in front of them. This is to inform the compiler that the functions are not expected to return any values. If your compiler doesn't like this, try leaving 'void' out.

3. The names chosen are purely arbitrary. I could have called the functions 'gibble' and 'plop' if I had wanted. It's usually best to give them slightly more descriptive names.

4. When you want to call a function from within your program, only the name and some round brackets are required. You don't need any other keywords.

5. The function which is called 'main()' in a program is always executed first, no matter where it appears in the program.

MAGIC C WORDS

- \+ Plus for addition
- \- Minus for subtraction
- * Asterisk for multiplication
- / Slash for division
- > Greater than
- < Less than
- && AND
- || OR
- ++ increment
- — decrement
- == test for equals
- = assign a value

VARIABLY I SAY UNTO YOU...

A program without variables is like a car without petrol – it won't do a lot. Like functions, variables must be declared before they are used. You must also inform the compiler of the 'type' of the variable, in other words if it is to store integers, floating point numbers or ASCII characters.

Let's write a program which declares some variables, and then goes on to do something useful with them. In this case, we'll stick to using a single 'main()' function (Table E).

TABLE E

```
/* Another example program using variables */
main()
{
   int a,b,c;
    /* declare three variables */

   a=10;       /* Set a to 10 */
   b=3;        /* Set b to 3 */
   c=a/b;        /* Set c to a divided by  b */
   printf("%d divided by %d is %d\n",a,b,c); /* print
the result */
}
```

Right at the start of this program we declare three variables, of type integer. We don't give them values when we declare them – we simply inform the compiler they exist. We could have declared the variables as in Table F.

TABLE F

```
int a;
int b;
int c;
```

However, using a comma to separate them achieves the same result in less space. As usual, C provides many ways of doing the same thing – we could even have defined them and given them values at the same time, for example see Table G.

TABLE G

```
int a=2;
int b=3;
int c=4;
```

However, in this case, it is only when the pro-

VARIABLE TYPES

Variables must all be declared before they are used in C, and also given a type. The most common types are int (short for integer), long, float and char (short for character).

An integer is a number which contains no fractional parts – there are ten and only ten integers in the range 1 to 10. Integers can also be negative. Zero is also considered an integer.

Most versions of C for the Amiga will define an integer as a number in the range –32678 to 32767. This takes up 16 bits of storage for each number.

A long number is an integer with greater range –2147483648 to 2147483649.

Each long number uses 32 bits of memory.

A floating point number is an approximation of what mathematicians like to call real numbers. In the range 1 to 10, there are an infinite number of real numbers – not only are the integers 1 to 10 present, but all the intervening fractions and irrational numbers as well. Obviously a computer cannot store an infinite range of numbers, but the floating point system works quite well by using 64 bits of storage.

A variable of type char is really an integer in the range 0 to 255, as all ASCII characters lie in this range. It is also usefully used to store byte-sized data.

When programming the Amiga, other data types are often defined using these primitive definitions. I'll point them out when they arise.

gram gets started that values are assigned using the familiar equals sign. The equals sign is something that's going to cause you no end of hassle in the future, so commit to memory that a single equals sign is for assignment. In paragraphs to come,we'll discuss the double equals sign, which has an.entirely different use – don't get them confused.

The third assignment, 'c=a+b', is the one which actually does some work. The program has added together the values of the variables a and b, and assigned the value to variable c. The values of a and b are left unchanged.

The next line is great fun – it manages to cram lots of different useful ideas into a short space. It's simply another use of the 'printf' command, but as well as that magic '\n' symbol, we've including the mysterious '\d'.

In the same way that '\n' has a special meaning (take a new line), the '\d' means 'print an integer here'. The integer which will be printed appears further along the 'printf' statement, outside the quotation marks. Again,commas are used to separate the variables. You might like to try changing the 'printf' statement to output your sums in a different format, like this for example see Table H.

TABLE H
The number 3 is the sum of the number 1 plus the number 2.

If you can manage the above, you've sussed the use of '/n' and '/d' out completely.

MATHS IS FUN!

The addition operator '+' is not alone. There is a minus '-' operator, a multiplication operator '*' and a division operator '/'. The last one will give interesting results when used with integer type variables, so don't be surprised by the output of this program:

```
/* An example program using variables */
main()
{
    int a,b,c;     /* declare three variables */
    a=1;           /* Set a to 1 */
    b=2;           /* Set b to 2 */
    c=a+b;         /* Set c to a plus b */
    printf("The sum of %d and %d is %d\n",a,b,c); /*
print the result */
}
```

DECISIONS, DECISIONS

To write any sort of useful C program, you need to be able to make decisions which depend on the values of variables. The simplest way to do this in C is with the 'IF' command. Here's a short program to decide which of two variables is the greater – you should be able to work out the structure of the 'IF' command from it.

```
/* A program which makes decisions */

main()
{
    int a=1,b=2;          /* declare and assign vari-
ables */
    /* First 'if' statement */
    if (a>b) printf("A is greater than B\n");
    /* Second 'if' statement */
    if (a<b) printf("A is less than B\n");
}
```

Notice that the condition which is checked by the 'IF' statement is contained inside round brackets. Notice also that there is no explicit 'THEN'-like command. C doesn't need one, so don't put one in!

If you wanted to include more than one statement to be executed after the 'IF', you would mark out the code as a 'chunk' by putting curly brackets around it, like this:

```
if (a>b) {
    printf("A is greater than B\n");
    printf("So what are you going to do about
it?\n");
    }
```

The spacing is fairly arbitrary, but remember to lay everything out so that it makes sense to you when you read it later. The statements within the 'chunk' must be separated by semi-colons!

BUGGED!

Our greater-than less-than program may seem extremely short, but already we've introduced a bug. The program will not do anything when a is equal to b. Time for an equality test! The line:

```
if (a==b) printf("They are equal!\n");
```

will do the trick, and while I'm at it: welcome to the confusing world of the double equals sign! If you had used a single sign, like this:

```
if (a=b) printf("They are equal!\n");
```

The program would have still compiled OK, but it would not work as you might expect. That's your homework for next month – try some examples and find out what happens when you mix up assignment and equality checking. Is there a time when you might want to mix them up?

Meanwhile, you might want your conditions to rely on more than one variable at a time. For it is entirely possible to put a second 'IF' statement inside the first, but you shouldn't really do this if you only want to check simple conditions. For example, if you wanted to print text only if a was equal to 1 and b was equal to 2, you could do it like this:

```
if (a==1) {
    if (b==2) printf("A is one and B is two\n");
  }
```

A better way is to make use of another magic C symbol: &&. The double ampersand will perform an 'AND' function:

```
if (a==1 && b==2) printf("A is one and B is two\n");
```

To achieve the equivalent with an OR, use this double bar ||.

```
if (a==1 || b==2) printf("Either A is one or B is
two\n");
```

See you next month.

HOMEWORK

Last month we managed to get to the point of printing text on the screen, so if you tried it yourself and got it working, have a pat on the back. If you remember, I left you with some homework – namely, to discover what purpose the '\n' served when it appears in text.

The answer can be demonstrated by this program, so type it in and find out:

```
main()
{
    printf("1. Hello World\n");
    printf("2. Hello \nWorld\n");
}
```

When you run the program (after compiling it and linking it of course),you'll see the text appear on-screen like this:

```
1. Hello World
2. Hello
World
```

The '\n' symbol inserts a new-line character, and if you tried to print text without it, you would soon run out of space! By the way, if your C compiler was throwing strange error messages at you when you typed in last month's listings, you may need to add the line:

```
include "stdio.h"
```

at the very start of all your programs. We won't get into a discussion about why yet, so you can treat it as a bit of mumbo-jumbo that makes your programs work if you like. In reality it adds a special library of code to your program, which is needed for the 'printf' function with some compilers.

C SHORT-CUTS

C has many ways of confusing the unwary, and one of its best is with the vast array of short cuts available. Take for example the seemingly innocuous statement:

```
a=a+1;
```

Not content with this, C allows it to be shortened to:

```
a++;
```

Likewise,

```
a=a-1;
```

can be written as

```
a—;
```

This might seem a petty thing, but it exists to allow the compiler to create an optimised version for translation into machine code – since most assembly languages provide INC and DEC instructions (although,interestingly the 68000 does not.)This statement can also be used during assignment, for example:

```
a=10;
b=a—;
```

Which will assign the value of 10 to b, and then decrement a to 9. If you wanted a to be changed beforehand, you would write:

```
b=—a;
```

Which would have the effect of assign 9 to both a and b.

You can also shorten a simple addition such as:

```
a=a+10;
```

to:

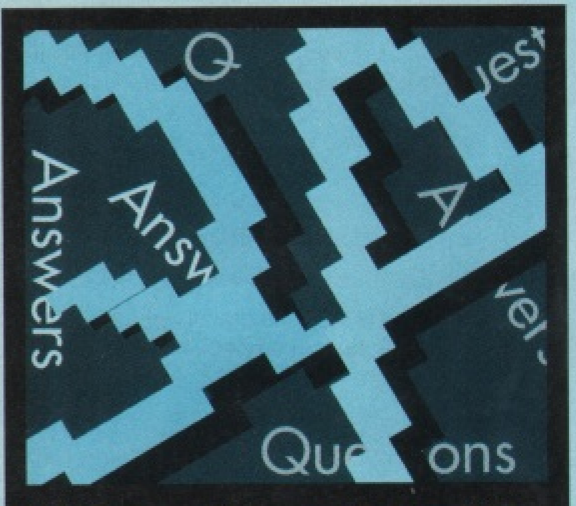
```
a+=10;
```

Subtraction works in the same way. Don't worry about using these shorts if you are not sure about them, but remember to keep a look out if you see them in any other programs.

NEXT MONTH

That's it for this month – after all that you should have enough C programming ability to write some simple decision making programs of your own. Next month we'll be looking at loops, and the easiest ways to do lots of work with minimum effort.

If you have any comments about this series or would like to see a specific topic covered, why not write in to John Kennedy at the usual address.



This month we have the usual crop of processor problems, memory maladies and emulator enquiries to sift through. The good news though is that Mat Broomfield is in the U.S.A. so we had to get a proper expert to answer your questions.

ACCELERATED CRASH

I have just purchased and had fitted a SSL A5000 accelerator board with 3Mb memory (as advertised in your CU Amiga October issue). An excellent purchase in terms of speed, but many games I possess will not run with the extra speed. How will I know when purchasing software whether it will crash?
Mrs. J. V. Wightman, Whitstable, Kent

Unfortunately, you won't. Firstly, I should point out that this problem is not specific to the A5000, but will effect all accelerated Amigas (including standard Amigas which come with any processor other than the 68000 – i.e. the A3000, A4000 and A1200).

The trouble is with the game programmers. In the early years of the Amiga, Commodore produced a guide on how programs should run on the system, but many programmers just simply ignored them, following the philosophy that if it worked, why bother to follow the rules.

When the A3000 was launched the reason for the rules became apparent, when a lot of games software refused to work. 'Oh well', thought the programmers, 'no games players will buy a 3000 anyway'. And they were right, but nowadays more and more people have bought accelerators for their machines, and the new A1200 comes with a 68020 processor as standard, which is going to cause a lot of problems.

It wouldn't be so bad if these games were marked as incompatible on the boxes, but more often than not they just say Amiga. The good news is, if they do just say 'Amiga' on the box you can return them to the shop as being 'goods unfit for the purpose for which they were sold' and get your money back.

Hopefully games programmers will wise up and start producing games which work on all machines.

SERIOUS EMULATIONS

I have decided to buy a PC Emulator for my A500+ and I am not sure which is the best one to get. I would like to use *Microsoft Excel, Corel Draw, Aldus Pagemaker* and *Microsoft Word* and I need my Amiga to be able to run these programs. Please could you recommend the emulator which would best suit my needs.
Guy Pattison, Truro, Cornwall

There are several PC emulators on the market, most of which are capable of running the software you mention. It really comes down to getting what you pay for.

If you are planning on using these packages properly it would be worth going for a GVP hard drive with the GVP PC emulator mini-card (which can be bought separately if you already have a Series III drive).

For just mucking about, the KCS emulator available from Gordon Harwoods (0773 836781) would be more than adequate.

WHICH COMPUTER?

I am currently exploring the wonderful world of the Amiga to find a computer to suit my needs. I have narrowed the choice down to the new A600 with extra hard drive or the extremely tempting CDTV computer package, as I have £500 of very hard-earned cash to spend. I intend to use the computer for editing and producing special effects for amateur films on video primarily, as well as using art software such as *D-Paint IV* and, of course, playing games. I would also like a CD compatible computer. My main problem is finding out how expandable the CDTV system is, and if there is any CD software available for such things as video titling, etc. I understand that the CDTV system is basically an A500+ with a built in CD machine, but I have also read that the memory required to store CD data affects the running of floppy software. If I buy the A600HD, however, I will have to wait (how long?) for the A670 CD drive and then pay over £360 for the thing. There is, of course, the giant advantage of a hard drive; but is it just a question of choosing between a CD drive with memory overheads or a hard disk machine with the extra wait and expense for CD machine? Plus, will the CD drive run CD-i titles or PC-CD titles?

I would be extremely grateful if you could answer my questions and maybe tell me if I should get a different computer in the same price range and how I should expand the computer for use in VHS video editing.
S. Thompson, Salford

I'm not terribly sure why you need to have a CD drive for video titling, but you are correct to say that there are software problems with the CDTV, in that the buffers for the CD drive use up extra memory, effectively meaning that the CDTV has less than 1Mb. The solution to this is, of course, to get a CDTV with a memory expansion (Calculus do a memory expansion for the CDTV, and also a hard drive option which may well be worth looking into).

If you are interested in doing a lot of titling, or doing it professionally, then it may be worth getting an A1500, which are selling reasonably cheap these days and have the advantage of a video slot, which is handy for some of the more hi-tech hardware. You can use CD-Roms on the A1500 using another SCSI CD mechanism.

The CD-Drive won't run applications that have been programmed for the PC or the CD-i, just as a CD-i machine won't run PC or CDTV applications. However, because the data on PC CD-ROM disks is stored in the same format it is possible to read the data from these disks.

TALKING NEIGHBOURS

I was watching a recent edition of 'Neighbours' and I saw that they were using a program called *Amiga Talk*, where you can talk to people through your computer by typing in messages. How much would this cost and what do you need for it?

What does the program *Ghostwriter* do? Can you talk to the computer as in *Amiga Talk*? Do you know of any other programs that can do this?
A. Moore, Grimsby, South Humberside

Unfortunately, I haven't seen Neighbours since I left University, so I didn't see that particular show. I assume that what you are asking for is a comms package, which enables you to electronically exchange data over the phone with other similarly equipped people or with a Bulletin Board.

There are plenty of comms programs for the Amiga, and the good news is that the best ones are Public Domain or shareware, so they cost next to nothing. Ones to look out for are *NComm*, *Jrcomm* and *Term*, all of which are available from all good PD libraries advertising in this issue.

BIRTHDAY PRINTER

I have to choose between two colour printers for my birthday, either a Star LC-200 or a Citizen Swift 9. The shops say that I should buy the Citizen Swift, even though it is the same price as a Star, but everybody else tells me to buy a Star. Please help.
T. Western, Crewe, Cheshire

Buy a Star.

AGNUS AMNESIA

Some years ago I bought an Amiga 500, with a 1Mb Fat Agnus in it. However, though I do have a 512k trapdoor-type memory expansion I do not have 1Mb of Chip memory. Also, when I switch the additional memory off by using the switch on the memory board, my Amiga won't boot at all; it just flashes the power LED and the screen goes yellow. Is there something wrong with the jumpers on the main Amiga board or is it because the memory expansion is a German one.

The memory board has been examined by the importer with no success – it worked all right on their machine. If the fault is the memory board, is it possible to configure some A530s 32-bit memory as Chip memory? The revision number of my Amiga is 6A.
Pasi Arffman, Vuuokatti, Finland

Okay, for a start, just because you have the

Fatter (1Mb) Agnus chip on board doesn't mean that you can automatically have 1Mb of Chip memory. The A500 was only designed to have 512k of Chip memory – it wasn't until the advent of the A500+ that 1Mb of Chip RAM became standard.

There is a way to modify your A500 to enable it to use the trapdoor expansion RAM as Chip memory. You have to make some modifications to your A500 though. First of all turn off the machine and open the case, locate the small plastic jumper next to the trapdoor and remove it. Next get a sharp knife and warm up your soldering iron. Locate a set of three jumper pads slightly to the right of the 68000 chip and cut the connection between the two lower pads. Then solder the upper pads together, close your machine and switch it on. The RAM expansion should be configured as Chip RAM now. However, if the Amiga is having trouble recognising the expansion as it is, there may be something wrong with your computer.

Check that all the pins on the trapdoor slot are straight and give them a bit of a clean. If you can't get the expansion to work normally there is no point in trying to make the Chip RAM modification.

You cannot configure memory on a hard drive to act as Chip memory.

MODEM MADNESS

I am thinking about buying a modem but I do not know much about them. I would like to know about the different types, prices, things that can be done with them and whether it is worth buying one. Can you please help or give me a name and address of someone who can give me more info.
Michael Farn, Cottingham, North Humberside

How curious. You are thinking about buying a modem then, but you don't know what they do? You're a marketing man's dream.

Listen, forget about modems, I have this very nice state of the art computer for you. It's called an Atari Falcon.

COP KILLER

I've nearly finished my own animation film called 'Cop Killer' using the brilliant coverdisk program, *MovieSetter*. It's taken 2Mb, loads of coffee and a distinct lack of sleep.

Could you please tell me how to put my animation on to its own bootable disk? I've copied the files from *MovieSetter* on to the blank disk as well as the animation itself but nothing seems to happen. Is there a utility that I can use or perhaps a book that can give me more info?

P.S. Could you please tell me what the Fatter Agnus and Super Denise chips do, and would they be worth getting?
Paul Henderson, Dublin, Ireland

The trick about making a disk bootable is to install it. An ordinary disk has nothing on its boot sectors but a load of data indicating that it is an AmigaDos disk.

On a bootable disk, however, the boot sector contains a small executable program which instructs the Amiga to start its initialization sequence.

To install a disk simply enter the Shell or CLI by clicking on their icons and then type 'install ?' and press return. A load of garbage will appear on the next line. Now insert your disk and type 'DF0:' and press return. The disk will be installed and will now boot as a normal Workbench disk.

If you want to automatically run the program when the disk has booted it will be necessary to make a startup-sequence. First make a directory on the disk called 's' and in it create a file called 'startup-sequence'. This file is just a list of CLI commands that are executed at startup. In your case the file could simply have one line 'Movieplayer name_of_file'. For more details see the special supplement elsewhere in this issue.

NOVICE VIRUS

I am a novice to the Amiga, so I was wondering if you could help me out with a problem. I think that my Amiga has caught a virus, because one particular disk I tried loading produced a lot of the red and black 'Software Failure' messages, and upon subsequently loading my Workbench I could not get access to the pull-down menus with the right mouse button. The computer works okay with other commercial software but it is just my Workbench which is giving me problems. Hopefully this sort of problem rings some bells with you and you can tell me what options are available to me.
Wayne Toal, Stockport, Cheshire

A software failure is the computer's way of telling you that it has crashed. This could be due to a number of reasons, but if it is happening on your Workbench disk, and you have no other peripherals attached, then it probably means the disk is corrupt.

This could be either due to virus damage or simply a dodgy disk. Make another copy of Workbench from your original disk and install the Virus checker we gave away on the coverdisk onto it. Use the checker to test your other disks too – just because they seem to work doesn't mean they aren't infected.

A1200 VS. A600

I would like to know if you could give me any information about the new Amiga A1200. All I know is that it has a 32-bit processor, can have 256,000 colours on screen, and costs around £400.

Which would be the best buy between the A600 and the A1200? I have an expanded A500 on which I use art packages, word processors, and play games. Would my A500 software be compatible with the A600 and A1200?
Darren Broughton, Street, Somerset

I assume you have now read the A1200 review as seen in last month's CU. As to which is best, well, the specifications speak for themselves. If you plan to do anything at all involving graphics then the A1200 represents greater possibilities. There are some games due out which take advantage of the increased speed and colour resolution of the new Amiga, too.

The problem really lies in compatibility. A large amount of games software will be incompatible, as will some of the existing graphics packages. We are still working on our lists of software which will work on the new AGA machines. Commodore claim that they have achieved 60% compatibility in their tests, but we seriously doubt this figure

A-LEVEL HEADACHE

I have just started my A-Levels and consequently I have many essays to write. Obviously, I do them on my Amiga. But due to their size I am always running out of memory. This is my set up: A500 with kickstart 1.3 and Workbench 1.3.2, Power external drive, Star LC10, Datel 512k upgrade; and I use *Penpal* to write my essays.

I have seen the following advertised by Evesham Micros: 1.5Mb Ram board, Megaboard (both boards go in the trapdoor and also connect to the Gary chip). I was wondering how reliable this method is and is there any possibility of destroying my Amiga when installing the board? Which board is best and are there any other alternatives?

I am also considering buying a hard drive. What is your opinion of the Roctec hard drives? What are the Ashcom unbranded drives like? Are there any other drives in the same price range?
Ben Rotundo, Cheltenham, Glos

To answer in reverse order. Both the RocTec and the GVP HD8 are very good drives. You also might like to consider the Dataflyer, now being distributed under the Zappo brand name. You really can't go wrong with any of these drives and even CBM's own A590 Plus is worth considering if you plan to add any additional SCSI drives later. We did run a comparative test a few issues back on hard drives, where the GVP just edged ahead of the RocTec.

The reason I mention hard drives first is because all these drives allow you to add extra memory. This would enable you to still use your A501 expansion, which you wouldn't be able to do if you got a 1.5 expansion for the trapdoor. The difficulty with these Gary modification expansions is that the memory is not Autoconfigured in the same way as external memory is. This can lead to problems with some peripherals.

CLASSIC EXPANSION

I have an A500 with 1Mb of Ram, which I bought with the Cartoon Classics pack. I am thinking of buying an upgrade to expand to 2Mb and I've got a few questions to ask:

1. I want to buy a 2Mb upgrade that will work with the upgrade that I got with the Cartoon Classics pack and I saw the Megaboard on sale from Evesham Micros. Does this mean that the Megaboard will connect up with my upgrade to give 2Mb and, if so, will it be easy to install as I'm no expert at installing chips?

2. I am very keen on animation and have got to grips with *D-Paint IV* and *MovieSetter*, and I was wondering if having 2Mb of memory will make much difference to my animations. Will it mean that I will be able to make animations twice as long with the two animation packages above?

3. Also, will having 2Mb cause any problems with my computer games or doesn't it matter?

4. And lastly, what other advantages apart from animation does having 2Mb have?
Robbie Edmonstone, Jordanhill, Glasgow

Cor, this is all a bit efficient numbering your questions isn't it? Okay, off we go:

1. Maybe. The Megaboard has an expander for your original RAM expansion, but it will only fit in if it is under about 9cm long (i.e. the original A501 won't fit).

2. More or less. Both these programs need to store images in RAM when they are animating if any degree of speed is to be attained.

3. It shouldn't make any difference. Some exceptionally old games (like, circa 1987) may have some difficulty, but generally you will have no problems. Many games are actually enhanced by having more memory.

4. More memory makes everything a lot easier, especially when using applications software.

WHAT TIME IS IT KIDS?

My Amiga has started telling me '<unset><unset><unset>' as a response to the setclock command (including setclock reset). What does this mean? Is it perhaps a problem with the clock's battery? (I have an original A501, over three years old.)

Eyal Teler, Jerusalem, Israel

Why do you write in when you know the answer already? Yes, it is most likely that you have a problem with the battery. It is probably just run down, which can easily happen if you don't use your computer regularly. The best solution is to leave the machine on constantly for about 10 hours, which should charge it up enough again.

Ezra sends his regards by the way.

PD GEOGRAPHY

I have an Amiga 500+ with 1Mb and no hard drive. I have been looking around PD adverts and am trying to find a good map generator (I am interested in Geography). I have tried a few programs but they have not been compatible with my Amiga, they have either needed 1.5Mbs or a hard drive. I would like quite a cheap but effective PD program. If you cannot help, can any readers?

Stuart Ingram, Swindon, Wilts

I'm not quite sure what you mean by a map generator. If you mean, as I think you do, that you want a program that will display various maps of the U.K. then I don't know of one that would be suitable and run in such a limited space. If anyone does know of any software that can do this, please write in and let us know.

Other than that I can only suggest that you look at getting a hard drive. All these types of program rely on large amounts of data to create the maps from. The more data you have the more accurate the maps will be so if this is more than a passing curiosity it would be worth investing in an expansion.

KEY 880

Sometimes when I'm working with AmigaDOS and I insert a game disk (e.g. *Robocop II*) I receive the message: 'not a DOS disk in unit 0', or 'Key 880 checksum error'. How can I remove these errors?

Tim Jacobs, Belgium

You can remove the 'errors', but you don't want to. The games disks you mention are exhibiting the classic symptoms of being non-AmigaDos disks.

This means that although you can boot up from the disks when you first turn your machine on, they are not recognised as standard disks.

This is because games are often loaded in stages as you play through them. In order to store all the data in such a way that the game can access it quickly, it is more often than not arranged in a different way on the disk, the loader program being contained in the bootsector of the disk which is run on start-up.

There is nothing wrong with your disks but you cannot run them without rebooting your machine first, with the disk in the drive. It is a good idea to turn your Amiga off and then back on again between games anyway, to protect against the spread of viruses.

MORE ABOUT SAMPLE LIST

Your explanation of *OctaMED's* SLIST option has solved a problem that I've been trying to come to grips with for some time. However, in order to show the new list of sample disks when I load the program, I have to go into the FILE section and click on the 'S' directory followed by MED_paths. The program then asks if I want to replace the existing sample list, to which I press 'R' (for Replace). Is this really necessary?

Mike Hemming, Studley, Warwickshire

Yes, I must admit that the explanation of the SLIST option wasn't very satisfactory was it? After an exhaustive two minutes of research, I can now give you the complete picture.

For those readers who may not be familiar with the feature, the SLIST can be used to store a complete list of any instruments that you have available on additional disks or in various directories. These instruments can then be loaded by simply clicking on their name in the available lists.

Adding a list of instruments consists of three stages:

1. Read the instrument directory. To do this click the FILES button in the main options palette and the file requester screen will appear. From here, select the disk and directory containing the instruments that you want to add to the FLIST. When the instrument names appear, click the SLIST button in the main options palette.

2. Add the instruments to the SLIST. In the SLIST window, simply click the ADD button (below the word DIR). The instrument directory should appear in white writing at the right of the SLIST screen.

3. Save the new SLIST. Now this is the stage that has been causing problems. The SLIST can be saved in two different places: the S directory of your *OctaMED* disk, or the current directory. The current directory is whatever directory appears when you click the FILES button, and if you've just loaded some instruments, it will be the instrument disk. The safest thing is to use the S directory option, so insert your *OctaMED* disk and click S (underneath the words SAVE LIST). A file called MED_paths has now been saved in the S directory of your *OctaMED* boot disk (or hard drive if you're using one).

When *OctaMED* loads, it will automatically look for and read the MED_paths files from its boot directory. If it can't find the file there, it will search the S directory. This creates the problem that the old path list will still be read instead of the new one that you've just created. To solve this problem, all you need to do is go into the *OctaMED* directory and delete the unneeded path list.

If you're using the CU coverdisk, you can do this by loading it until the Workbench screen appears, then double click on the CU36 icon, scroll the window up and double click the system icon. Finally, double click the CLI icon and type

DELETE CU36:MED_paths <return>

CHANGING MIDI SETTINGS

I want to transmit the MIDI setup information (such as pan settings) on the very first audible note of a song or sooner, yet that requires three lines of information. Is there a way that the information can be transmitted (perhaps using silent or 'dummy' notes) before a song starts playing? At the moment I simply transmit three very short notes for every MIDI instrument/channel before the song starts. This means that every song is introduced by three very loud and disruptive blasts of sound.

David Bell, Sydney, Australia

Yes, there is a way that you can do this, and it takes advantage of one of *OctaMED's* more useful features which applies equally to both MIDI or samples. If you play a note, then send further commands before that note has finished playing and, the program will interpret those commands as it encounters them.

The easiest way to use this to your advantage, is to transmit a note using the required instrument, but with a volume of zero, you can then use subsequent lines for sending commands. For example:

C-3 10C00 – Plays note C, instrument 1 with a volume of 0 (C00).

— 00E7F – Sets the stereo pan completely to the right.

— 00000 – Does nothing!

C-3 10000 – Plays note C, instrument 1 at its default volume.

You can also use this to move the stereo location of an instrument while it is playing! For instance:

C-3 10000 – Plays note C, instrument 1, default stereo location.

— 00E7F – Note C is still playing, but has been moved to the right.

— 00E3F – Note C is still playing, but has been moved to the centre.

— 00E00 – Note C is still playing, but has been moved to the left.

C-3 10000 – Plays note C, instrument 1, stereo location to the left.

I'M COMING HOME

Mat will return next month from his jaunt across the Atlantic. So, keep those letters flooding in ready for his return. Hopefully, there should be one or two that are beyond even his ken; it will probably be the only thing to wipe that 'I've been to the States and had a fabulous time' look off his face.

The address is: Mat Broomfield, Q&A, CU Amiga, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

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OCTAMED PRO

READER REVIEW

As part of a new initiative to give you, the reader, more influence over what goes into the magazine, Simon Adamson is this month's guest reader reviewer. He asks: Is the hype surrounding *OctaMed Pro* justified?

IS IT A SPREADSHEET?

Let's get one thing straight before we start: I don't regard myself as a musician. I'm not the type who took piano lessons as a kid, and I can't play God Save the Queen on a dozen different instruments. If I could, I'd probably run a mile from something like *OctaMED*, which at first sight looks more like a spreadsheet than a music program. Coming from a background of programming various utilities, this didn't bother me. In fact, it made a lot more sense to me than the professional sequencers I'd used!

Anyway, for those who didn't pick it up when Version 3 was given away free on the July issue of CU Amiga, *OctaMED Pro* is an update of *MED*, which itself stems from the *Soundtracker* family. The main difference with *OctaMED* is that it can play eight channels of samples simultaneously. This is quite a feat, as the Amiga only has four sound channels. The price you pay is a drop in sound quality, but more on that later.

IN THE MIX

Since version 1, *OctaMED* has combined sampling and sequencing in one program. The advantage of this is that you can grab and edit new sounds while you're in the middle of writing a tune. With previous versions of the program, you could mix samples together, boost or filter the treble, add echoes and reverse the sounds. Now you've got control over the degree of treble boost and filter, finer definition of echoes, and you can even edit samples free-hand, by drawing a new waveform in the sample window.

If you want a more conventional display you can click on the stave gadget; this shows selected tracks as music notation. Although it doesn't show things like effects commands, it does allow you to enter sheet music by picking up notes from the palette at the bottom of the screen and putting them onto the stave.

GET THE BALANCE RIGHT

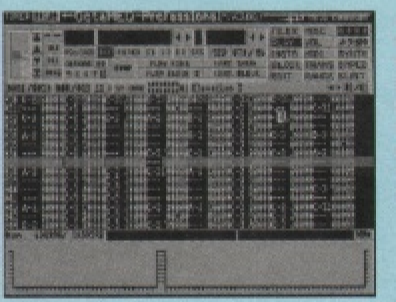
You can use *OctaMED* in four, five, six, seven or eight channel mode. The standard four channel mode gives you plenty of control over the tempo of your track, the relative volumes of each sample, and it also offers the best sound quality. Unfortunately, there's a heavy price to pay for using extra tracks. First, all the samples are converted from 8-bit to 4-bit. Now the playback volume of each sample is set to maximum and can't be altered from within the song. This makes it very difficult to get the levels right. Finally, the tempo control is reduced to what is in effect a fast/slow control. This doesn't matter so much for synth-type instrumental tracks, but it makes sequencing drum loops rather tricky. It would be impossible, but for the new 'tune' function. This lets you fine tune the playback rate of any sample, pulling loops into time and tuning instrument samples.

The main problem with using eight channels is the drastic loss of sound quality. It's most noticeable in sounds with a lot of treble, such as cymbals and drums, which are reduced to coarse, grainy shadows of their former selves. You can get a bit of treble response back with the HQ (high quality) gadget, available on Amigas with a 68020 or higher processor, but it's still nowhere near as clear as in four channel mode. It's a shame really, because it rules out any possibility of using it for professional music production.

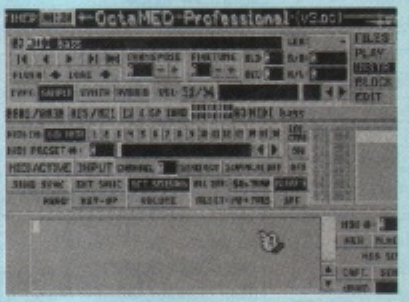
To be fair, the sound degradation isn't that obvious if you use the right sounds. Sampled synth sounds and synthetic drums don't lose much and you can include all those little rhythms, sub-melodies and background effects that just weren't possible with four channels.

If you've got a MIDI keyboard or drum machine, you can sequence them alongside your samples. Each block can be extended to 16 tracks, all of which can be used for recording and playing MIDI sounds. For me, it's the MIDI support that puts it head and shoulders above the other trackers. It is possible to record live from your MIDI instrument, but the fairly low resolution and slow reaction time from the computer means that it's best used as a step-time editor for anything other than very simple parts.

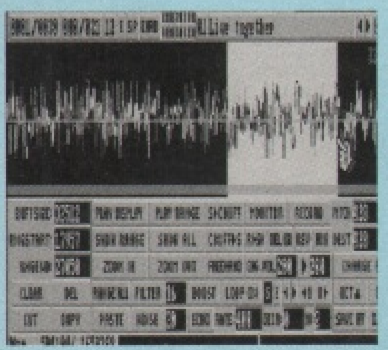
OctaMED Pro is a pretty tasty program, even if you never use the eight channel sample mode. I'd recommend it to anyone who uses a tracker and wants a bit more power, as well as beginners who want to have a go at making their own music.



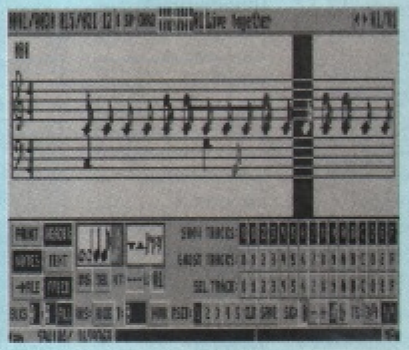
OctaMED is one of the few programs that lets you use up to eight samples simultaneously. There is a price to pay however, and sound quality is lowered.



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BACKCHAT

Reading writes and writing wrongs, the letters pages are your forum for voicing opinions on the Amiga world. This month's pickings from the postbag have been selected by Steve Prizeman.

TAX DISKS?

I am writing in response to the letter from Carmen Brulez in the November issue of CU Amiga. At the end of this you asked us, your loyal readers, for our views concerning a possible tax on blank disks.

I personally believe that such a tax is a bad idea and certainly wouldn't stop the pirates from copying games at all. Rather than spend £35 or so on a full (original) commercial product they would still buy blank disks (even if they cost a little bit more after taxation) and copy stuff regardless, because it is much cheaper. And once again the pirates' selfish greed ensures that everybody else suffers.

What about all those honest users who regularly buy blank disks because they genuinely need them for purposes other than copying software? I am talking about such people as the graphic artist, music maker, and avid public domain (PD) swapper. And am I the only wordprocessor user who owns several disks full of files AND backs them up as well? I think not! So you see, it is people like us who, because we use numerous blank disks, will lose out with such a tax.

On a wider scale, PD companies, most 16-bit magazines, and even commercial software houses themselves regularly need to purchase blank disks (albeit in bulk). How will they all cope with such a tax? Will this mean that prices may have to be raised yet again as compensation, so that these companies stay in profit? I could see it being done.

I would like to hear what views the magazines, software developers, and even the pirates have on this subject, which is likely to take up much of the letters pages in future issues of CU Amiga.

Stuart N. Hardy, Sheffield.

With regard to your last point, Stuart, I think you may well be right: software piracy is a subject mentioned in many of the letters to Backchat. On the subject of pirates, I think I can see the Jolly Roger coming into view this very moment...

CRACKED

The great piracy debate rages on and I feel like I need to stick my oar in, as it were. In my area (up north), piracy is alive and well, but not for long, I think.

We know various 'crackers', as we call them, but they don't supply us in the main. We get most of our games from software shops. I know several people who work in chain stores and copy hundreds of games after hours, crack them, and then distribute them freely. When I say we, I mean probably around 40. We keep these games amongst ourselves and if any outsiders who are well known to us pop up we sell them games. Last week, for example, I sold *Panza Kick Boxing* (very old) for no less than £7.

However, piracy will soon be dead. The thrill has gone now it's too easy to break the so-called law. So now we buy games. We have the joy of looking at huge colourful boxes and instructions, yes instructions – a pirate's nightmare. No instructions, no games in many cases. I have begun to sell off my disks cheaply to youngsters as I have too many to keep tidy. You may be wondering how long I've had my Amiga to get so many disks. The answer is not long. I started collecting, copying, selling, etc. long before I obtained an Amiga and found it profitable.

'Andy Onymus'.

Will these people never get the point? Piracy is illegal. I'm not going to go through all the old arguments about the rights and wrongs of it, I'm sure that you've heard them all before.

The point about instructions is well taken, but the various prayer wheels, trivial pursuit sessions, and Masonic handshakes required to get many games started are clearly still being over-ridden by crackers. For games with a complex set of controls (strategy games and flight sims, for example) it would be naive to suppose reams of photocopies aren't produced as well.

SAD EDITOR FAILS TO BRIBE READERS

I am writing in response to Dan Slingsby's Editorial in the October issue of CU Amiga. I believe that it is imperative that the publisher gives Dan a raise based on all the hard work he has done for the magazine.

But, if that is not enough of a reason, please do it so that I may receive a crate of Budweiser (I don't mind American or the 'real' stuff) that Dan promised. This is extremely important as it will help maintain the yin/yang balance in my life (i.e. at the moment I have spent too long sober and need balancing out). Plus, if I get the drink he won't and will therefore be able to work soberly for that much longer. (P.S. I am well over the age of 18.)

S. Mahon, Cardiff.

For those of you a little puzzled by this letter, cast your minds back to October 1992. In that issue Dan wrote, in his Editorial, a request to all our readers to write in to the publisher to tell him how great Dan is and how much he deserves a pay rise. He even offered a crate of Budweiser to the best letter.

Well, it's now three months later and this is the only letter that we have received. Out of over 100,00 readers only one could be bothered to write in! And that's with the incentive of a crate of Bud, as well. What does this show about Dan? Perhaps he's just such a poor Editor and sad man that no one cares about him. Perhaps no one reads the Editorials. Or perhaps everyone thinks Bud is a lousy beer.

We've tried to convince Dan that it is one of the latter explanations, and so far he's gone for it. But, having worked side by side with him for some time now, I'm inclined to go for the sad option...*[and I let them write this drivel – Ed.]*

MAJOR MISTAKES

I was impressed by the new A1200, which I read about recently. It certainly seems to be a superb machine, but I can see Commodore being turned (once again) into the villain of the piece.

Its marketing strategy hasn't been brilliant, it must be said. The A500+ was plagued with incompatibility problems, was hurriedly phased out (almost overnight) by the A600, and then, out of the blue, this machine's price was slashed by £100. Now, to top it all, the A1200 arrives! If it lives up to its growing reputation as a mega-machine, and if the price is really going to be only £399, I can see this putting the A600 under threat.

Just what must the up-and-coming computer enthusiast do? There are so many machines that they'll have a difficult job knowing which one to choose! Even the existing micro-users are unlikely to trust Commodore any more because, judging by its latest policies, it'll only be a matter of time before yet another, improved, machine is launched. I'm all for progress if it is for the better, but releasing new machines so regularly is surely a bad idea. I just cannot see the point of promoting the A600 Christmas bundles with one breath and then introducing the new A1200 with the next. Commodore isn't living in fear of the latest Atari machine, the Falcon, is it?

S. Hardy, S. Yorks.

As you'll have seen by now, Stuart, the A1200 was profiled in our December issue. At the time of writing the extent to which existing software will be compatible with Commodore's new baby remains unclear.

Commodore estimates that around 60% of existing software will run on the A1200 and A4000 (although not necessarily the same 60%). To be (slightly) more specific, around 35% of current software is expected to run straight-off on the new machines, with a further 25% running once the cache memory is disabled. Professional and applications

software should prove more compatible than games; recent titles will probably be okay, on the whole, whereas older ones are considered somewhat of a lottery. Commodore has made it clear, however, that it regards the onus for establishing software compatibility as lying principally with the software houses.

Commodore shouldn't be criticised for updating their machines – after all, the adage 'To stand still is to move backwards' is particularly true when applied to computing. I agree, however, that the rapidity of new releases and their apparently arbitrary pricing can only cause consternation amongst many Amiga users, especially the new ones. Add software incompatibility to this and you're just left with a mess. Some people are getting angry...

CUSTOMERS RIGHTS?

As the saying goes, 'The customer is always right' . Well I wish Commodore would sit up and listen.

I have owned an Amiga 500 for about five years now, and have been very happy with it, but I am now looking to upgrade to a newer model. The question I need answering is which model?

The Amiga 500 has been the base model for a few years and Commodore has supported it well and will probably do so for a while yet, but over the last couple of years there have been the A500+, the A600, and also (trying not to forget it) the CDTV. Many people rushed out to buy these machines, but what about the people who bought an A500+ only to find the A600 series not far behind. I bet they didn't think it was funny after wasting FOUR HUNDRED POUNDS on a line which was soon to be discontinued. Similarly, with the A600 a lot of people spent £400 only to find that the price was to be cut by £100 shortly after.

Maybe you think that I am being hard on Commodore, but I am not the only one who believes that we are being ripped off. I have lost my faith in Commodore: how do I know that if I buy a CDTV there won't be a new one around the corner – which is what a lot of rumours are suggesting. So does this mean that the old CDTV will become discontinued (another waste of money!)? When the A4000 came out, with its 256,000 colours on screen I knew that there would be another computer not far behind it – yes, I am talking about the A1200. I am quite sure that this computer will eventually take over from the A600; I mean who wants a computer with, say, 32 colours on screen, when you could have 256,000 – which, in turn, is what software developers have been asking for. So a lot of developers will start producing software on the A1200 instead of the A600 because of its better capabilities. I know that the A1200 will sell because our local Dixons has already sold out. I am tempted to buy an A1200, but I am worried that Commodore will then release a better computer not long after. I know that it is impossible to always own the best, as new technology becomes available every day. Firms have to take notice of what their competitors are doing, so they don't get left behind in the race to reach the top, but Commodore is going too far by releasing computer after computer.

It's time that Commodore listened to its customers, as we are the ones keeping it in business, and treated us with the respect we deserve by not ripping us off. Commodore needs to restore our faith by releasing a computer and sticking by it for a while, like it did with the A500. Maybe then, and only then, will we trust Commodore and support it.

Garry Abel, Humberston, South Humberside.

SOME MISTAKE?

In November's iisue of CU Amiga you said that the Commodore A1200 did not exist. So why are Dixons selling it?

If I am the first to spot it is there a prize on offer?

Mr. P. Liesse, North Vielsey, Lincs.

To answer the second question first – no. And, as for the first question/statement, if you had read your issue correctly Mr. Liesse you would have seen a news item on page 10 stating that the A1200 was due for release shortly.

MARKET PLACE HERO

My opinion on the debate on the future of the Amiga is that it will remain Europe's largest home-use computer for a long while yet. There are just so many good games for it, and much more to come for anyone to kiss it goodbye. If you want a console it would be a real shame to trade your Amiga for it. I've got a Megadrive and a Famicon, but will always keep my Amiga to play *Populous 2* and *Grand Prix*.

The important thing for any computer to do is find its niche in the market. The Spectrum is still selling and being used as it's a great machine – I regret giving mine away. It has found its place in the market, as has the Atari ST with its serious/enthusiast user-base. The Amiga is in a pigeon hole that is well stocked with consoles, against which it competes very well. The only computer that surpasses the Amiga is a high-end PC costing a lot more. PCs

CONSPIRACY THEORY NUMBER 297B

No longer can my anger be withheld. Too long have critically over-generous games mags ignored the practice of games being deliberately engineered to have a pre-set life span. I am not talking about difficulty and number of levels, or skill settings, although these factors are often made redundant by programming cons and cop-outs. Let me elucidate.

In times gone by I have witnessed letters in games mags decrying the lack of saveable high score tables and, therefore, the lack of incentive for continued and worthwhile play. However, today the whole affair has been swept under the rug by mags ignoring the issue and games developers underhandedly undermining the whole concept of playing for scores. 'How?' you may ask. Simple. Most releases nowadays do not even have a score table, thereby dismissing at a stroke the whole issue and showing contempt for 'punters' who in the past have asked, very nicely, for saveable scores, and who have repeatedly been ignored.

The lack of score tables is just a part of a larger conspiracy to rob games players of long term satisfaction: other tactics are not enabling games to loop around when finished, making high score play pointless, not having enough digits in the score area (sometimes even reseting score during play due to lack of said digits), creating score tables that are almost unreadable, giving the player little opportunity to view the score table by making it appear for only seconds or hiding it behind 10 minutes of credits, and also not displaying the top score on screen whilst the game is in progress.

A game needs all these features to truly be a worthwhile purchase. In fact, Japanese console games usually have all these features, but, of course, no saveable scores. Megadrive games in particular suffer from being too easy and lacking in the continual play stakes, a problem that could be cured by simple battery back-ups to store positions and scores. This will never happen because developers do not want people getting long product satisfaction and perhaps not buying as many expensive games.

I would love to purchase a console or handheld, but I never will while the above situation remains. Okay, this may not concern many hoodwinked punters, but many wiser people share my view. It is 1993, and I still cannot play decent games how they should be played – for scores. I cannot even use a £60 Datel replay cartridge to freeze games and save scores that way, because developers program in routines stopping cartridge use. Now seeing that this cart will only copy single file games, and considering all commercial software is multiload, and considering that the cart's disk monitor can break in and change credits, sprites, etc. but cannot locate deliberately hidden score tables, it's patently obvious the programmers do not want people playing for and saving scores. I mean, why hide only the score table? Some games even have an on-screen score counter which is of no use at all to the poor misled punter because the very second the final life is lost the score vanishes, never to be seen again. As no score table or even a high score bar exists the player cannot even write down the score as he has no way of knowing what his score was. This phenomenon is too common to be an honest programming mistake. Finally, what about games that allow player positions to be saved, but not scores. Why not? Even saving scores to a blank disk (no virus problems) is virtually unheard of.

I find this an appalling situation in an industry that gets away with customer contempt like no other. Would Ford sell cars with no accelerator to stop drivers reaching high speeds?

My reason for writing is to put across this plea. The points I raise would be relatively simple for programmers to implement whilst developing their games, as they make sure it cannot be done by people like me once a game is finished and on the shelves. If this plea falls on deaf ears, then programmers hear this: 'Bog off and don't expect me or others to fund your unrealistic and closeted industry any more.'

One last comment. I would pay up to £40 for an Amiga version of *Parasol Stars* containing all the features I mentioned, as I would then get value for money, unlike the version currently available. To all concerned, please take note when childishly complaining about piracy, etc.: price is not always to blame.

Mr M.A. Andrews, Manchester.

This is a real letter. Incredible, isn't it?! Surely the point about playing a game is that you play it for the challenge. Saving a high score is secondary to this. Mr Andrews must be very sad indeed if he craves attention so badly he needs to see his name up in lights on a high score table. As for the comment about Ford and accelerators, you're missing the point there too. The absence of a high score table does not stop you achieving one nor getting futher in the game than ever before. What a maroon!

don't have clever graphics or sound chips, but rely on the fast processor clock speed to do these fancy functions without slowing down.

CDTV is an expensive failure, while CD storage is exciting. Commodore (if it is to survive) would need to develop a PC (bearing the Amiga name) with Amiga custom hardware and graphics/sound chips and a combination of floppy, hard and CD storage. It's up to Commodore (and Atari) to produce the next big home computer, or they will lose out to the consoles.

The only other possible future for the Amiga is with the programmers of games that are more than just platforms and shoot 'em ups – leave those to the consoles and bring us more of Microprose, EA and Bullfrog.
Lawrence Sinderson, Crayford, Kent.

DOWN UNDER

I own an Amiga 500+ and I think it's a great all-round machine, but I've got to admit it doesn't come close to a 486 S-VGA PC (which is flicker free, I hasten to add).

The Amiga's sound is great and rivals even the best souped-up 486 with a sound card, but that's where it ends. The Amiga's 32/64 on-screen colours do seem rubbish compared to the whopping 256 of the PC. So what if we have HAM – I've never seen a commercial game taking advantage of it, have you?

Now lets take a look at the Amiga's CPU, the 68000 running at 7.14 MHz – wow! Compare this to a 486 racing along at anything from about 33 MHz to 50 MHz, which makes the 68000 look like a Lada with its brakes on, even the Amiga 3000 seems a bit slow.

Commodore had better get its act together and quick. Hey Commodore, why don't you get your backside off the chair, listen to the consumer for once, and do something about our dying machine? It seems that the Amiga is about to become obsolete and is three quarters of the way to Silicon Heaven. The Amiga could easily make it to the top once again, but it's going to be hard work for Commodore and I wouldn't like to be in their shoes if the PC makes it to the finishing line first.
James Wilson, Adelaide, Australia.

I think obituaries for the Amiga are far too premature, James – 'Rumours of its death have been greatly exaggerated' (to paraphrase Mark Twain). Bear in mind a warning Lawrence Sinderson (see above) added to the end of his letter:

Don't let people tell you the Amiga is dead – ever heard of self-fulfilling prophecies? These people come from America where the Amiga is an uncommon machine losing out to PCs and Apple Macs.

Evidently they can be found in Australia as well. Not everyone is impressed by PCs, however…

GREEN WITH ENVY

The main reason I am writing is the increasing number of letters you are receiving about the so-called PC threat. I have three friends who own Amigas, two with 386s, and one with a 486. All of us consider games to be our main use of our computers.

I invited the guys with IBMs over to my house and showed them the following games: *Monkey 2*, *Project X*, *Lotus 1* and *2*, the demo of *Zool*, a few top demos and another bunch of cool games. Two hours of constant playing later and already their faces were green with envy. They couldn't believe that *Monkey 2* was running in just 32 colours. Needless to say *Lotus 2* and *Project X* left them speechless, and almost at the point of passing out. They felt like they just poured £2,000 down the toilet!

To come to my point… The day that you can obtain software of this calibre on a cheap PC (i.e. around £800) will be the day I throw away my Amiga and buy a PC… NOT! By that time we would probably be playing with the latest Amiga 10000 with 200 Mb disks, plus CD-ROM, plus 64-bit ultra-true colour and resolutions too high for the eye, etc. etc.
Jack Sukkar, Amman, Jordan.

SAD AD

I have just seen the new advert that Commodore are running as part of the Christmas campaign. What a disappointment!!

The guy in the advert makes Amiga-users look like a bunch of boring dorks (check out his joystick technique).I hate to say it, but the Nintendo and Sega adverts are much more interesting and eye-catching.

All I can say is at least Atari haven't produced a better advert. We want an advert worthy of the Amiga.
Kirsten Gillespie, Glasgow

Personally, I don't think that it's too bad. It's hard to convey all the elements that an Amiga is capable of handling.

CREDIT WHERE IT'S DUE

After reading the November edition of your (excellent) magazine, and the write-up on the CDTV demo collection, I thought I'd get in touch with Almathera.

I phoned on a Monday afternoon, about three o'clock, to see if the price of £19.95 included postage and packing. Not only did it, but they took my name and address and promised to send me the above-mentioned disk and the Fred Fish PD disk as well. Amazingly, Almathera wanted no monies, but instead asked me to send a cheque when I received the goods. Even more astounding was the arrival of the disks the very next day.

I would like to thank Almathera not only for its super-quick service, but also for the trust it puts in its customers.

P.S. The disks are excellent as well.
Mr A. M. Miller, Matlock, Derbyshire.

CREDIT DUE, TWO

I would just like to tell readers what a great service 17-Bit Software give. I send my orders on Monday and receive my disks on Wednesday. With my orders I usually send some questions, every single one of which gets answered. Also, on its catalogue disks, unlike many other PD libraries who shall remain nameless, it says whether or not the disk is worth buying (unlike the 'nameless ones' who recommend every disk in their libraries just so you'll buy them). Long live 17-Bit!
Stuart Sadler, Heworth, Yorkshire.

Here at CU we occasionally receive complaints about firms which give poor service, so it's great to hear of companies going out of their way to help customers. It's equally pleasing to know those customers are prepared to take the trouble to thank people who do a good job for them. A little effort, a little gratitude – see, the world's a better place already!

INSENSIBLE SOCCER

Firstly, congratulations on what I consider to be a superior magazine. I have been buying CU Amiga for nearly two years, and am pleased to say that the changes you have made to it have thus far been for the better. Well done – you can count on my support in the future.

Now to my reason for writing. I recently purchased *Sensible Soccer*, and must say it is a superb game which I really do enjoy playing. What I would like to know, however, is why can I beat every single team except one? The team to which I refer is England. Now, as far as I can see, all other teams appear to be judged about right, i.e. when I play Malta or another nation not renowned for football I win comfortably. Likewise, when I play Germany I rarely win. This is understandable since Germany are, to all intents and purposes, world champions.

If the performances of teams were based on recent events and games, then surely England would not be that good as they have been far from successful lately. Were England made one of the toughest teams purposely, or is it just me? I am willing to accept the latter as I am not that good at the game, but it does seem strange that *Sensible* seems to be a trifle biased. I would be interested to hear any comments you have on the subject.
Michael J. Pope, Newport, Gwent.

Sick as a parrot to hear any suggestion of improper intervention from the touchline. I spoke to Renegade, the publishers of *Sensible Soccer*. They explained that although England is one of the toughest teams in *Sensible* there are others with potentially equal ability. Your strategy and positioning of star players are major factors in determining success or failure. The Renegade team, footy fans themselves, point out that soccer has more to do with emotion than cold analysis – it's a funny old game, and there are no absolutes when trying to predict results.

BEAT THAT

I am a fan of Gamesmaster on Channel 4 I was wondering whether there are any plans for a computer game based on the TV series. Players could take the part of Dominik Diamond as he presents the show. It could be an adventure game where Dominik has to get from one end of the show to another without making a mistake. He would have to face loads of kids and beat them all up, and stop all those game journos from spouting a load of rubbish!
D. Diamond, London.

What a joker.

If you have any views concerning the Amiga which you would like to share with CU and its readers, write to:

**BACKCHAT, CU AMIGA
PRIORY COURT
30-32 FARRINGDON LANE
LONDON EC1R 3AU.**

CLUB CALL

Lending a helping hand to Amiga users everywhere, CU is happy to support established computer clubs using our favourite family of machines. If your club wants to spread the word about its activities and get some free publicity in the process, drop us a line.

AMIGA C CLUB

TULEVAGEN 22, 181 41 LIDINGO, SWEDEN.

With almost 200 members worldwide, this well-established Swedish club is one that C programmers cannot a-fjord to miss. As its name suggests, the club's principal aim is to help Amiga users with the 'C' programming language, although the 37 countries in which it has registered members practically form an A to Z – from Argentina and Australia to Uruguay and the USA (including, of course, the UK).

Collecting information for the Amiga C Encyclopedia (which is being improved constantly), the Amiga C Club (ACC) ensures that its registered members are informed of the updates, and can obtain the latest version for just the cost of disks, postage, and packing. Encyclopedia V3.0 has recently been completed, and is aimed specifically at C programmers who want to write programs compatible with Dos 1.2 and 1.3. This is handy for C programmers because, although most parts of the C Encyclopedia are available in shareware libraries around the world, some important chapters are only available to the club's registered members – information on BOBS, copper lists, graphical tricks, and some 3D routines, for example. The members are also the only people permitted to use parts of the associated manuals in their own programs and articles.

A generous range of benefits may be obtained by registered members, including:

- Two disks, containing the last parts of the encyclopedia, forwarded by first class air mail.
- Updates are made available – the new Dos 2.xx part will soon be on offer.
- Free access to ACC's own bulletin board, dedicated to C programmers. Running on an A2000 with a SupraFax 14,400 bps V32bis, it should provide connections of the highest reliability.
- Pictures may be digitised, whether in colour, or grey scales, using a special colour scanner which reproduces pictures with professional quality.
- Sound effects may also be sampled (in both mono and stereo), which, combined with the information provided by the club, allow the simple addition of sound and graphics to programs.

ACC also helps its members by giving advice, answering questions, correcting programs, designing layouts, and more (as long as it's to do with C on the Amiga). Anders Bjerin, who founded the club three years ago, and still runs it, has six years experience of programming on the Amiga and is the author of several PD games and utilities. Although, as you would expect, ACC charges a membership fee, it is a once and for life payment, rather than an annually renewable sum. Write to Anders at the above address (remembering to include an international reply coupon if writing from outside Sweden) for further details about the club and becoming a member.

AMIGA NETWORK INTERNATIONAL

434 DENBY DALE ROAD EAST, WAKEFIELD, WEST YORKSHIRE WF4 3AE.

With an impressive membership of approximately 200 worldwide, this club of established Amiga users includes professional coders within its ranks. On the serious side of Amiga applications, raytracing is the Network's main interest, whilst the main fun pursuit is role-playing games. If you want to find out more about this capable club, contact Philip Turnbull at the address above.

AMIGA VIDEO PRODUCERS GROUP

8 ROCHFORD CLOSE, GRANGE PARK, SWINDON, WILTSHIRE SN5 6AB.

A brief update: the AVPG has launched a disk-based magazine, to appear five times a year. February, April, June, October, and December are the months when it will be released.

BATTY'S PD CLUB

7 DENMARK ROAD, NORTHAMPTON NN1 5QR. TELEPHONE: 0604 22456.

Offering excellent bargains for PD enthusiasts is this young club, formed in Spring last year. Surprised by the high prices charged by some other PD clubs, husband and wife team Ian and Lynn Battison established their own to provide an affordable service to Amiga users, and now have between 70 and 80 members nationwide.

Charging members only 49p per PD disk (35p per blank disk), for orders collected from the club's address, a set charge of 50p for postage and packing is added to mail-order purchases – and it stays at 50p regardless of the number of disks you buy! Non-members may purchase disks at 79p each (+p&p), but since lifetime membership costs just £3.99, joining is clearly the cheaper option for regular buyers of PD.

Once a member has purchased more than 50 disks, the cost of PD purchases will be reduced to 45p per disk. Batty's also tests its disks for compatibility on the 500, 500+, 600, and 1200, so you needn't remain in the dark about whether or not PD you buy will work on your machine – just check when ordering. Batty's also sells the 'Assassins' games compilations to members at £15.99, and non-members at £21.99.

If you want to expand your PD collection, contact Ian or Lynn.

BEAT ARTISTS

60 KNIGHTON CHURCH ROAD, LEICESTER LE2 3JH.

A new disk mag to hit your Amigas, Beat Artists deserves to attract readers in numbers matching the effort put into it. Over 300 man hours of work were devoted to cramming the disk to its full capacity!

Whilst Beat Artists may not bring anything revolutionary to the disk mag genre, what it does it does well, and with a certain style (they've even gone to the trouble of designing an animated pointer – very nifty). The usual fare is served in the form of reviews (games, an animation, a utility and a piece of music) and hints and tips (only four). Readers' letters and advertisements are planned for inclusion in future issues, although that obviously depends upon the response it gets. More interesting are articles reviewing a couple of classic games (*Elite* by Firebird, and Microprose's *Formula One Grand Prix*). There is also a short piece comparing and contrasting the percentage marks awarded to games by CU and its rival Amiga magazines.

More than this, however, Beat Artists includes four programs providing, between them, both usefulness and entertainment. Not one, but two games are featured. *Jumper*, by J. Rose, is quite a playable *Frogger* clone – as I sent my Kermit lookalike to play on the motorway I was transported to the dim and distant past when I played the original on the C64. *Cracker* is a code-breaking game by Gary Mayhew. It is effectively an Amiga version of the Mastermind board game, in which the player has to deduce the arrangement of four coloured markers within a set number of attempts. It's as exciting as it sounds (!), and is pleasant enough if you like that sort of thing.

An atmospheric tune, composed on *OctaMED V3.00*, with vaguely 'Je t'aime' style breathy effects, forms the musical content and is certainly worth listening to. On the practical side of things, Virus Checker V6.05 by John Veldthuis is included on the disks – a program which can deal with a prodigious number of coded nasties.

There is even a jokes page, but, although the sampled laughter chuckled away while it loaded, I couldn't get the screen to scroll so that I could actually read the jokes. Maybe that was just me, but I'm not so sure.

Beat Artists, in short, is a well-presented disk mag which has made a creditable debut and is worth checking-out. I'm not sure how competitive the £2.50 cover price is, but I wouldn't begrudge it to them – you can judge for yourself. Contact the editor, Martin Kloos, at the above address if you're interested.

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GIBRALTAR AMIGA USERS CLUB

CLUB SECRETARY, PAUL JENNINGS, 7 LIME TREE LODGE, MONTAGU GARDENS, GIBRALTAR.

Established over two years ago by several Amiga users dissatisfied with the lack of after-sales support for their favourite machine (is that a uniquely Gibraltarian problem, I wonder...?), this club has developed a useful range of services for its members. Evolving from monthly meetings at which Amiga news and know-how was exchanged, the club now provides a PD library of more than 650 disks, a collection of Amiga-related books and videos, hardware (such as a sound sampler) which may be borrowed, monthly newsletters, magazine disks, tutorials on AmigaDos, AMOS, etc. special offers on Amiga accessories, and help with, for example, Amiga repairs.

The Gibraltar Amiga Users Club continues to hold monthly meetings at the John Mackintosh Hall, which feature talks, games competitions, and software demonstrations. The public are welcome to attend these meetings and details of them may be obtained from the club's chairman.

One major event is held on a yearly basis by the club – the Annual Gibraltar Amiga Exhibition, a three-day show featuring varied exhibits relating to the Amiga, with contributions being made by both hard and software companies around the globe. It is, in fact, the only Amiga exhibition in the south of Spain. The event also includes two games competitions and an art and animation competition. The next show will not take place for at least five months, but certainly sounds worth waiting for if you're a local Amiga fan.

The club is able to cater for Spanish-speaking Amiga users as well as English-speaking ones. Annual membership costs £9 for adults and £6 for students, although there is no charge for people living outside Gibraltar who wish to contact the club to buy or exchange PD software, or establish contacts with Amiga-using pen-friends.

HEREFORD AMIGA GROUP

ALMA COTTAGE, ALLENSMORE, HEREFORD HR2 9AT.

For those of you still trying to get in touch with this club, featured in the October edition of CU, please note the corrected postcode above – and don't jump to conclusions, it wasn't our fault it was wrong the first time! New from the Hereford Amiga Group (HAG) is its booklet, 'Cheaters Guide to Amiga Games', which features more than 320 cheats for many popular games. It is available to you unsporting win-at-all-costs types (whilst stocks last) for £3.50, exclusively from the HAG, although the club is seeking other outlets.

INDEPENDENT COMMODORE PRODUCTS USERS GROUP

P.O. BOX 1309, LONDON, N3 2UT. TELEPHONE: 081 346 0050.

In existence for 14 years, the ICPUG is a well-established organisation whose most visible presence is its well-produced newsletter. With almost 100 pages per issue, the bimonthly magazines provide information on the C64 and PCs as well as the Amiga. Features on CDTV and heartrending articles such as 'The Day my Hard Disk Crashed', extensive coverage of programming and applications, reviews of hard and software, news, and readers' letters are all included.

Though not a club in the way that most groups featured on these pages are, many of ICPUG's widespread members have formed local clubs which meet and discuss their computers in the usual fashion. An extensive PD library is available to members, numbering 1,100 disks for the Amiga alone.

A special end of year subscription offer may still be snapped-up if you're quick: the September/October issue (containing the articles mentioned above) and the November/December edition are available for £7. A full year's membership (including subscription to the newsletter), to begin in 1993, will cost £21 for UK residents, £25 for those of you elsewhere in Europe, and £35 for anyone outside Europe. All enquiries regarding membership of ICPUG should be directed to the Membership Secretary, Jack Cohen, at the above address.

MEGAMIGAMANIACS

P.O. BOX 37216, CHEMPET 7442, CAPE TOWN, REPUBLIC OF SOUTH AFRICA.

With a membership about 30 strong, this South African club deals with a wide variety of subjects interesting to the Amiga buff, from DTP to Assembler programming (Devpack and MasterSeka). Informal discussions and demo competitions are held regularly, and a monthly disk magazine is distributed to the members.

Access to framegrabbers, digitisers and laser printers can be arranged at the group's Cape Town club house, for only a nominal fee. PD disks (Fred Fish) are also available. The knowledgeable members include several who have designed and built their own hard drive interfaces and memory expansion boards!

New members, from anywhere in the world, are welcome. No membership fee is required, only the cost of receiving the disk mag. For further details contact the club president, Nick Oliver.

NUMERO UNO

DILLON EYRE, 21 BURSTALL HILL, BRIDLINGTON, NORTH HUMBERSIDE YO16 5NP.

Covering all parts of Great Britain, this is a small group which issues a bi-monthly newsletter to members (the membership fee is £3.50 per annum). It is currently establishing a PD service for members which will cost £1 a time (to cover copying, postage, and packing expenses) as well as the provision of a disk by the member. 'We are not interested in making money, just having fun', they say. Any profits go into the club funds, saving-up for a new printer, ribbons, and stationery.

To get further details you don't even have to send them an SAE – they'll settle for a first class stamp on its own. If you want to swap PD with the club, please note they made a special point of mentioning that they aren't interested in hardcore or nudists!!!

SOFTSWAP-CDTV

TYN LLIDIART, GLANDWR, BARMOUTH, GWYNEDD LL42 1TQ. TELEPHONE: 0341 281160.

Boldly going where few have gone before is this club geared towards the CDTV. Not only does this group provide advice about the often neglected machine, but, as its name suggests, Softswap provides a swapping service for CDTV CDs.

A fee of £5 per swap is charged, most of the money raised being re-invested in the club for purchasing new CDs and funding a newsletter planned for the near future – a printer needs to be purchased before that will be up and running. CDs are posted recorded delivery, so swappers should be able to rest assured that everything sent out will arrive. There are no cons, hidden costs, or membership fees, I am assured! The titles available include *Falcon* and *Trivial Pursuit*, the latter a large and enjoyable version of everyone's favourite quiz game, which comes over very well on the CDTV format.

For advice, or to set up a swap, speak to Chris, the club organiser, on the phone number given earlier. Please note that Chris doesn't want games or money to be sent to him without a swap being arranged first.

YOUR AMIGA CLUB (YAC)

THE OLD CHAPEL, CHURCH ROAD, CATSFIELD, BATTLE, SUSSEX TN33 9DP.

With a membership of 45 (or 90 if you include people covered by family memberships), this club, located in the Hastings area, offers a wide variety of services. Members receive a disk-based magazine, issued every two months, containing articles, pictures, games, cheats and, usually, PD utilities. A PD library stocks more than1,000 disks, sold to members for 75p each, and for which an on-disk catalogue is available. Tutorial classes on AMOS, CLI, AmigaBASIC, wordprocessing, databases, spreadsheets and art packages are organised by the group periodically, and helplines provide advice on Amiga problems. YAC has links with MAD, an organisation that provides discounts on computer products, through which it obtains hardware and software at prices below some of the best deals advertised elsewhere.

Venues vary for the club's monthly social evenings, although the games room of the Whitefriars pub (Priory Road, Hastings) is frequently the setting. Annual membership costs £10 for individuals and £12 for families. Details of the club may be obtained from the above address.

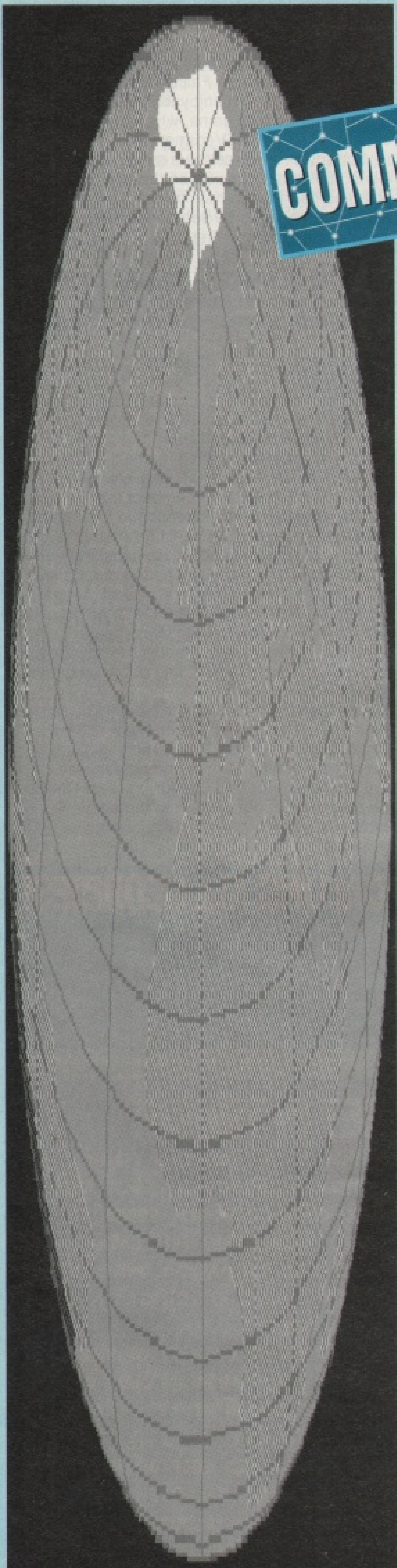
CALLING ALL GEORDIES!

Club Call has received a number of enquiries from readers in the Tyne and Wear area requesting information about clubs in their neck of the woods. If you run an Amiga club in the north-east don't hide your light under a bushel, let us know what you're up to. Ho'way the lads!

GET IN TOUCH!

IF YOU WANT TO LEAD YOUR AMIGA-ORIENTATED ASSOCIATION INTO CLUB COUNTRY, SEND ITS DETAILS TO: STEVE PRIZEMAN, CLUB CALL, CU AMIGA, PRIORY COURT, 30-32 FARRINGDON LANE, LONDON EC1R 3AU.

IF YOU WRITE TO ANY OF THE GROUPS FEATURED IN CLUB CALL, AND REQUIRE A REPLY, PLEASE HELP THEM CUT COSTS BY ENCLOSING A STAMPED SELF-ADDRESSED ENVELOPE (OR AN INTERNATIONAL REPLY COUPON IF CONTACTING OVERSEAS CLUBS).



It's a small world – especially when you have a modem to help you talk to thousands of Amiga owners the world over. John Armitage finds that if you've always wanted to be a radio HAM but don't know any Morse Code, this is the next best thing.

COMMS

GETTING

AMAZING WORLD

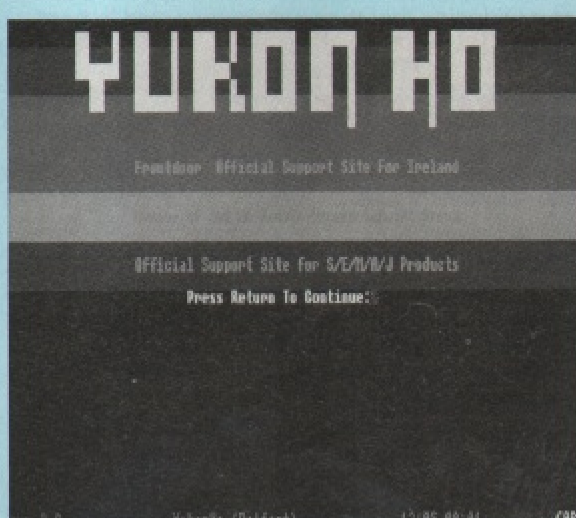
Comms is an amazing thing, and one of the most amazing things about it is that more people don't make use of it. A quick flick through CU Amiga demonstrates that a decent modem can now be bought for about £80 – not much more than an external floppy disk drive.

The benefits of connecting your computer to the telephone network are too numerous to mention, and if you are still not convinced that you should at least give comms a go, ask someone who has tried it and you will be.

I know that when I first started logging on to Bulletin Boards one of the main worries was about getting a huge telephone bill for my trouble. I soon discovered that by using a computer to do all the talking, it was actually cheaper to keep track of the time I spent lining Iain Valance's pocket. Most comms software will keep an accurate record of the time your computer spends on-line, so with a bit of self-discipline you won't be facing disconnection.

Most Bulletin Board Systems (BBSs) are free, which means your only expense is the telephone bill. Some larger systems, for example CIX – looked at in the November issue – charge for their services. Don't worry about accidentally incurring a bill when logging onto a system for the first time as you'll be warned long in advance. You'll also be asked to give your credit card details, which is a bit of a giveaway that something expensive is about to happen.

This month I have logged onto a local BBS for a look at what's available. At least, the board is local if you live in Northern Ireland. There aren't many boards in this part of the world, and those there are rarely get a mention – hopefully this mention will start to even things out. Remember that calling Belfast is just like calling any other large UK city – it doesn't necessarily cost the same as dialling America. Also note that the current BT special offer means that if you call on Sunday evening it costs the same as dialling your mate's house next door. I discovered that this 'local' board gets calls from as far away as Hong Kong and New Zealand – the reason being that it's a very good board.





The first screen you'll see when you log onto Yukon Ho! (Hobbes is the one on the left, Calvin on the right)

YUKON HO!

This 'Calvin and Hobbes' influenced board has been run by sysop Mark Kerr for three years and is currently running on an 25Mhz 386 PC with a 660Mb hard drive. Although originally Amiga-based, the board was moved over to a PC simply to run the best bulletin board software available at the time. From the user's point of view, the choice of host system is irrelevant – it's ease of use and facilities that count.

Six hundred users can't be wrong, and that's how many log in regularly to this system. About 50% of them are PC owners, 40% Amiga owners and the rest Mac and ST owners. Apparently, the Amiga owners are amongst the worst offenders in the upload/download ratios, so let's try to get ourselves a better reputation, ok?

JUST THE FACTS, MA'AM

- Yukon Ho!, BBSBelfast, N. Ireland, telephone: 0232 768163.
- Time: 24 hours a day.
- MODEM: All speeds from 1200/75 to MNP level5 HST.
- ANSI graphics supported.
- Large Amiga file section.
- Part of the Fidonet system.

ON BOARD

PD FOR FREE

One of the most common reasons for logging onto a BBS is to get hold of PD software, and Yukon Ho! has almost 30Mb of Amiga specific files just waiting for your modem to access. There are hundreds of sound modules, and even more picture files, so many in fact that they have to be sorted into categories. For example, in the Personality section you'll find high quality pictures of everyone from the sysop to Judy Garland.

The Amiga file section is well used, and contains a very up-to-date selection of files. It's worth logging on just to see what software is available, and it is also a heck of a lot quicker than posting a cheque off to a library.

When Mark the sysop gets his CD-ROM system up and running, he'll have many more files available for downloading. If enough Amiga owners ask he'll be only too happy to get some Amiga specific disks. I can't help but think that Althamera System's PD disk is going to be hot property amongst sysops.

LOGGING ON

At your first session, you'll be asked the usual barrage of questions – name, telephone number, what computer you are using, your chosen password and so on. You'll then be granted immediate access to the board and file areas, although you will be given a 30 minute time limit to start with.

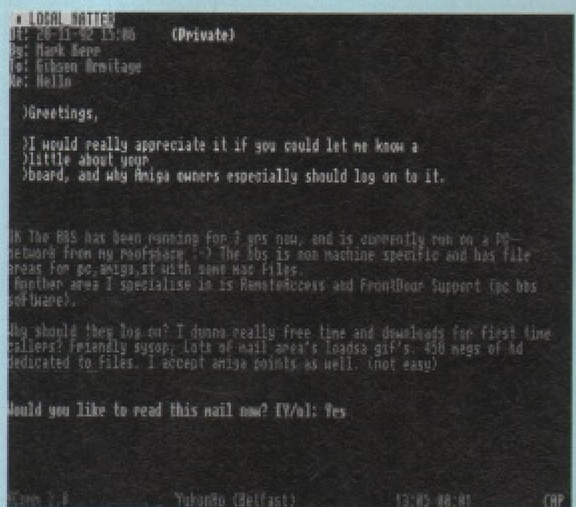
Your personal security rating can be improved by acting as a responsible citizen – the more you participate, the more you will be able to do.

Finding your way around the board is simply a matter of picking options from a menu, and you'll feel at home very quickly. Remember that the BBS host system must work with as many computers as possible, so don't expect any fancy Amiga style Intuition gadgets or menus. Nevertheless, with any halfway decent comms software you can enjoy the colour screens and pictures provided by the ANSI standard.

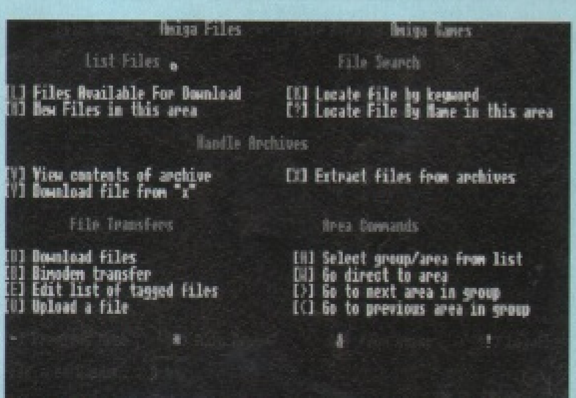
GLOBAL LINKING

If you want to know how to talk to people on the other side of the world for next to nothing, the answer is to use a BBS. Yukon Ho! is part of the vast FidoNet system, which consists of thousands of BBS' all networked to pass messages between themselves. Late at night, the boards start talking and will pass on any messages between themselves. Hopefully you'll soon be able to find a CU Amiga conference, so you'll be able to pass your messages directly to the staff of your favourite magazine for only a local call to your own nearest BBS.

Yukon Ho! is run as a hobby, not a business. Making use of its facilities is entirely free, and will remain so if Mark gets his way. Of course, donations are always welcome, so if you have any spare cash, computer hardware or software lying around doing nothing, it will be made good use of at Yukon Ho!. The BBS also doubles as a traditional PD/shareware library – if you want some software you are more than welcome to send disks and return postage instead of downloading it all.



The main facilities of Yukon Ho! are particularly easy to use. Soon you'll be chatting away to people all over the world!



From the file menu you can access more PD software than you could shake a floppy at, and all for free!

HOW TO SAVE MONEY

1. Only use the MODEM at BT's cheap rate. The cheap rate operates from 6pm to 8am during weekdays, and all weekend.

2. If BT have any special offers, for example country-wide local rates on Sunday evenings, make use of them – even if it means postponing your session.

3. Buy the fastest modem you can afford. A 1200 baud modem will take at least twice as long to download a file as a 2400 baud modem, and so on. It won't take long for a faster modem to pay for itself. Make sure 2400 is the very minimum your modem will handle – any slower is a waste of money.

4a. Always prepare your mail messages in advance. By using the upload ASCII text option of most comms software, you'll save valuable time which would be wasted writing on-line.

4b. Use an Off-line Mail Reader, such as AQUICK. This will bundle up all your mail, download it to you in archived format and then allow you to view and add replies later, when you are not on-line. The next time you log-in, you simply upload a file containing the replies. This can save a considerable amount of time.

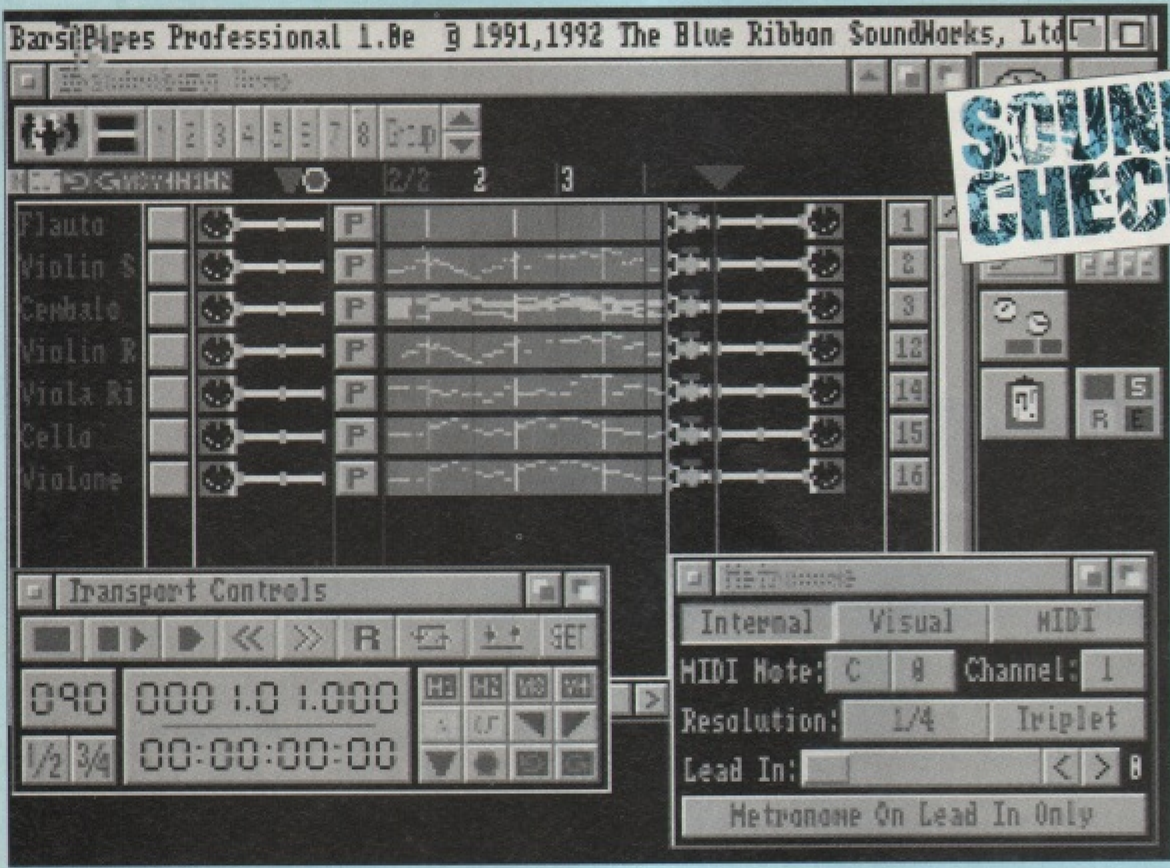
5. Use archives whenever possible. Programs such as 'LHa', 'arc' and' zoo' will squash data, thus saving time and money when you are uploading or downloading files.

6. Use someone else's telephone! If you are a student at college, make enquiries about getting access to the JANET system – there is a very large PD software library available for downloading.

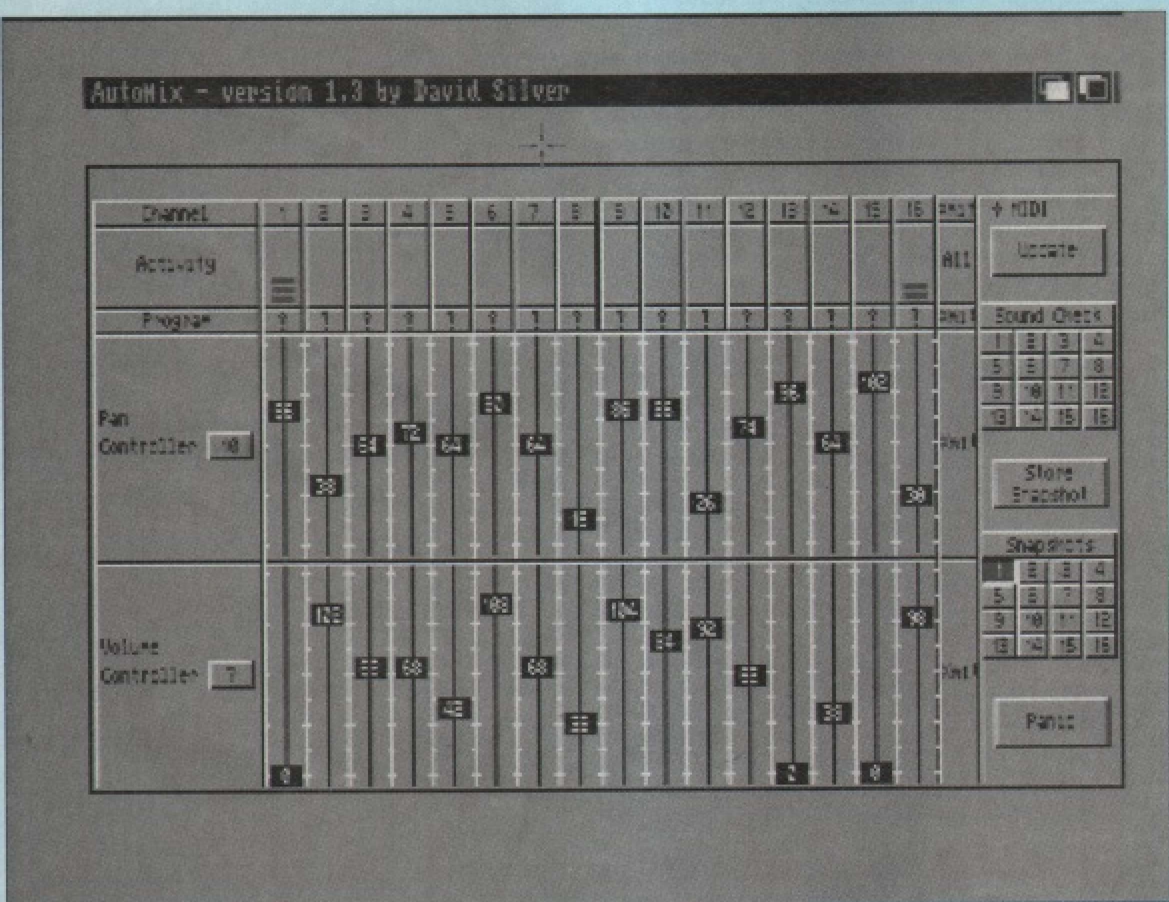
NEXT MONTH

As the comms world continues to expand at a pace we'll keep you up to date on all the happening Boards.

Next month we'll be back with another in-depth look at a specific Board. Our experts will voice their opinions on the best around, giving you the power to choose.



Before you start recording to tape, make sure everything is how you want it at the sequencing stage, with all the relative volumes set correctly. In an ideal world, you shouldn't need to touch the mixing controls on your tape machine.



Even if you have the luxury of MIDI-controlled mixing in your sequencer, you'll still need a real mixer to combine your samples and MIDI-generated sounds.

A MASS OF FX

In the October issue's Sound Check, I mentioned that: 'Strangely enough, I can't remember coming across a sampler that can put reverb on a sample'. What should turn up in the post, but a copy of *AMAS 2* from Microdeal (Tel: 0726 68020), which in fact can put reverb on a sample, so there.

Talking of Microdeal, they've got what could be a sampler's dream come true, due to hit the streets very soon. *Clarity* will finally bring the Amiga out of the doldrums of 8-bit sampling, elevating it to CD-quality professional standard 16-bit recording! So if, like me, you were disappointed by Commodore's refusal to update the Amiga's sound chip in their new machines, fret no more! We'll have a review of this potentially awesome piece of hardware in the next issue. Can you wait a whole month? I'm not sure I can!

It's one thing to create an audio masterpiece on your Amiga, but what happens when you want it played to someone outside your circle of Amiga-owning mates? Tony Horgan suggests some techniques to help you get the best out of recording on a budget.

JUST

GET IT TAPED

If you've ever tried recording music from your Amiga, you were probably rather disappointed with the results. Getting a soundtrack onto tape from the computer is simple enough – just plug a couple of phono leads from the audio-outs of the Amiga to the CD input on your hi-fi, select CD and press record on the tape. However, once you play the tape back again, two problems will unfortunately become apparent.

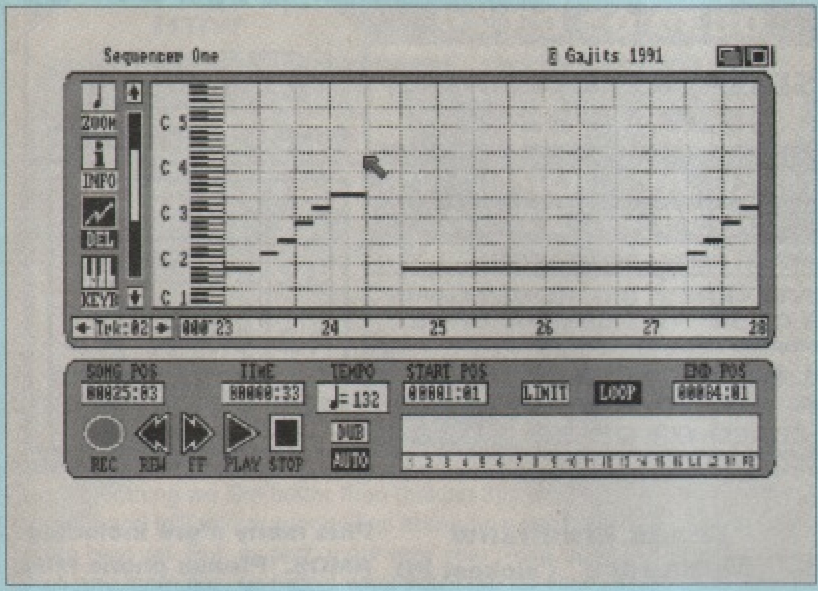
First of all, half the sounds are panned 100% to the right, and the others 100% to the left. This isn't too much of a problem usually, but try listening through headphones and you'll have a pair of very sore lugholes. The second problem is the overall sound quality. Analogue recording always introduces some degree of background noise, and in this case it's even more noticeable than usual, because of a poor signal-to-noise ratio. Just as an optimum input volume is essential for good sampling, the same is true for recording to tape.

The Amiga's output is fairly quiet. If you record straight from the Amiga onto tape, the volume level is only about half of what it should be. This means that when you play back your recording you need to turn up the volume more than you would otherwise, and in doing so you also turn up the background noise.

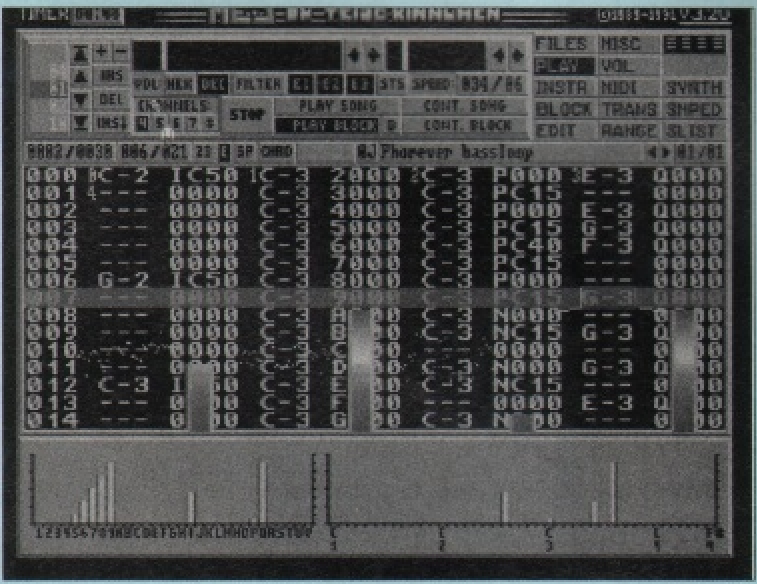
BASS BOOST

Sorting out these two problems should be your initial concern, but without any extra hardware there's not much you can do about either of them. However, even if you're on a tight budget, there are a number of options open. The cheapest is to get a Sound Enhancer, which will boost your Amiga's output, and give you control over the treble and bass levels. It won't solve your stereo panning troubles, though.

If you want to go one better you could invest in a simple DJ mixer. Tandy do a wide range of these, from the most basic no-frills models, to those with graphic equalizers, pan pots, VU meters and cross-fade sliders. Around £60 to £80 should get you a small console with stereo panners, and enough inputs for a modest sampling and MIDI set-



If your track needs some variety, try remixing it by dropping out certain tracks, stripping it down and building it up again.



For more spontaneous remixing, use *MED's* track-toggling features controlled from the numeric keypad.

FOR THE RECORD

up. Remember, you'll still have to record on your hi-fi tape deck though.

For the more ambitious, there's the lure of the four-track cassette recorder. These start at around £200 for the most basic models, such as the Tascam Porta 03. For that you can expect to record from two sources (the Amiga counts as two, because of the two outputs), and pan them across the stereo image. You can then do the same on the two remaining tracks. For another £50 or so, you can hope for more inputs and a better mixing section with bass and treble equalization (EQ). Something like the Fostex X-26 will do very nicely. If you're running Amiga samples and stereo MIDI music simultaneously, you'll have to go for one with at least four inputs.

SLIGHTLY RIPPLED...

Before you start messing around with the EQ controls, take a little time to get your samples EQed as best as possible from within your sample editor or *MED*. The idea is to keep everything as clear as possible at every stage. Once you're happy that you've got the best clarity from the Amiga end of things, hook it all up through your recording set-up.

We'll presume the relative levels of all the sounds coming from your MIDI instrument have already been set in the sequencer. Plug your keyboard into the mixer section and adjust the faders so that there's the right balance between samples and MIDI sounds. While we're in the mixer, adjust the panning of the two Amiga channels to about 20% on either side. That way you'll keep some of the width, whilst making it comfortable for headphone listeners.

It's odds on that the samples will still need a bit of treble EQ, so now's the time to give them a little tweak in the mixer. Play the tune, and make any other adjustments that seem necessary. Once you're happy you can get on with recording it.

WITH A FLAT UNDERSIDE

Choice of tape is very important. There are loads to choose from, and they all have different frequency responses. Some tapes tend to emphasize the bass, but muffle the treble. Others tend to veer in the opposite direction. The same can be said for mixers and tape decks, so it's just a matter of experimentation. For example, I find that TDK MA 60 tapes give the best results from my X-26 four-track, although even that needs a bit of a bass boost.

Before recording for real, make a short test recording at the end of the tape. Even though your VU meters are telling you the volume is perfect and the EQ sounds just right, after recording you may find that some of the treble has been lost or the signal was actually a bit too loud, which would cause it to distort on the tape. By making a brief test-take at the end of the tape, you keep the start of the tape fresh for the main recording and get some idea of the characteristics of the tape you're using. Once you're happy with your mixer and EQ settings, simply wind back to the start and begin recording.

If you're recording onto a four-track, record first onto track four, with a metronome count-in for a few bars at the start. You can then record an overdub of Amiga samples onto track three, doubling your available sample channels to eight. Synchronise the overdub by listening to the metronome click on track four, whilst making fine adjustments to the tempo on your sequencer to bring them together. You can then record (bounce) tracks three and four over to one and two, merging the stereo signal slightly on the way. You'll then be able to play the results through any conventional tape deck.

HIT THE DECKS

It's best to have as many extra tape decks (and speaker sets) as you can lay your hands on. Once you've made your recording, you can then try it out on a variety of systems to see how it came out. Set all the graphic equalizer controls to the centre when you're testing out your tape. A good recording shouldn't need any adjustment of the graphic equalizer.

So what happens if it all comes out in a mess? Well, it depends what has gone wrong. If it's too tinny, go back and record it again, with the treble down and perhaps a bit more bass. If it sounds buzzy and distorted, either turn down the bass or the main volume control, and re-record.

Not to be confused are the volumes of bass and treble sounds (kicks and high hats for example), and the amounts of bass and treble EQ. For example, merely pushing the bass up won't emphasise the bass drum particularly well. The low frequencies present in the other sounds in the mix will also be amplified, and although the bass drum will have a bit more wellie, the balance of the mix will have been thrown out. Instead, go back to your sequencer, and amplify the drum from there. With high hats, it's often a good idea to get their level right by turning them down a bit, then boosting them up again with EQ. Be careful not to turn them down too much, though, or you'll lose definition in the sound.

Even if your recording was spot on, you might still find your final mix is rather mushy. One reason for this could be excessive use of reverb or other effects. Some reverb effects can get very 'noisy' if used on the wrong sounds (bass lines for example), which leads to a build up of background hiss. Another reason could just be a bad selection of sounds. It's no good having loads of synth voices that all occupy the same area of the audio spectrum, because they'll all merge into one another. Try to use sounds with different textures, that work on different levels. That way you should still be able to hear everything in the final mix.

MIXING ON THE FLY

After listening to your recording a few times, you might feel it could do with a bit more zest. If so, try re-recording it with some improvised remixing via the mixer controls. Use the faders to drop out the beat, or maybe the chords, or even strip it all down to a single sound right in the middle of the track. You can then bring everything else back in gradually, building it back up to another climax. This can highlight each part of the mix, and revitalise the whole piece. If you're using *MED*, have a go at toggling the tracks on and off with the numeric keypad. And don't forget effects processing, which was covered in the October '92 issue.

If you want to appear in the Sell Out page please call Becky White on this no: 071 972 6700

SELL OUT

Amiga contacts wanted. Send lists to Karl, 14 Phoenix Avenue, Margam, Port Talbot, West Glamorgan,SA13 2LS. All letters answered 100%.

PD and Licenseware (A600 Compatible). Send stamp for catalogue: Pathfinder PD, 41 Marion Street, Bingley, West Yorkshire, BD16 4NQ (CU)

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PD Power. Quality Public Domain Software - just 80p per disk. Send SAE For full catalogue. Immediate reply guaranteed. Write to either: P1, 52 Court Road, South Norwood, Surrey, SE25 4BN, or: P2, 530 Davidson Road, Croydon, Surrey, CRO 6DH.

Sheildsoft PD (Amiga). All disks 50 - 80 pence Inc free catalogue Disk. Personal service at all times. Free membership. 13 Churton Road, Rhyl, Clwyd. Or Telephone 0745 343044.

Gamer-Link! The pen-pal club for Gamers! Free swap service. SAE to 28 Churchfield, Ware, Herts, SG12 0EP. For full Details.

Wanted: Amiga Contacts all over the world, Islamic PD. Send list and disk: A.A, PO Box 17636, Fax 8226636 Doha-Qatar

PD from as little as 50p-80p. 1000's of title. For our new catalogue and game just send £1 or send blank disk and SAE to M. Darby, 7 Ash Grove, Shirebrook, Mansfield, NG20 8QA.

Amiga Original Software for sale including:- Zool, Caesar, Robosport, Chaos Engine, Fireforce, Putty, Pinball Fantasies, & many more. + RPG & Flight Simulators. Send SAE for price list to: Jason, Ivy Cottage, Chapel Road, Beaumont, Clacton, Essex, CO16 0AR.

"Texas Chainsaw Massacre" ('sickest PD Game in existence' - Amiga Computing) Plus "Baby Splat" the outrageous follow up. On one disk £3.50. Only from Bryan Turnock, 53 Granville Avenue, Stanley, County Durham, DH9 8JJ.

Amiga PD Contacts wanted. Write to Graham, 10 Lonsdale Street, Workington, Cumbria, CA14 2YD. 300+ Disks! 101% Reply guaranteed!

Amiga Contacts Wanted to swap, sell or buy games. Send list to: T Edgington, 68 Glen Park Drive, Hesketh Bank, Preston, PR4 6TA. Or telephone 0772 814424.

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NEXT MONTH

LIAR'S CORNER

Okay, so we lied (again). It was a hoax. You didn't really think we'd stop including a Next Month page in the magazine, did you?! What fools you are. There's nothing we like better than making things up on the spare of the moment and telling outrageous lies about how next month's issue is going to be the best yet. But, as part of our new year resolutions, we've promised not to tell any more fibs, so here's what you'll get for your £3.95 in the scintillating, sexy, soaraway February issue of the world's best Amiga mag.

AMIGA WORKSHOP GETS REVAMP

Yes, those good old Blues Pages are no more. We've already changed the name, and this issue we change the content. From now on, Amiga Workshop will be crammed full of step-by-step tutorials, guides and projects, each one designed to help you get the most out of your Amiga. In addition, there will be specific columns aimed at programmers, musicians, comms users, *D-Paint* artists and more besides. As well as all that lot, there'll also be regulars such as Backchat, Bookshelf, Points of View and Q&A.

PLUS! FREE 32-PAGE VIDEO SPECIAL

Everyone's got access to a video camera these days, so we've commissioned an extra special 32-page guide detailing how an Amiga can help spruce up your dull and dreary home videos. From camera reviews and techniques, to genlocks, digitisers and special effects, we'll show you how to transform your family videos into Hollywood-style extravaganzas.

GET SERIOUS

And if it's detailed reviews of all the latest productivity software you're after, then Get Serious is your one-stop review section, detailing all the new releases. Next month, we'll also have a huge educational round-up, as well as an update on the A1200 compatibility problem.

GVP'S PHONE PAK

The dawn of a new era in telecommunications. At least, that's what Silica, GVP's distributors in the U.K. are claiming it is. This new combination of hardware and software packages will turn your phone-line into a galactic network hub with security accessed voice-mail and other complicated things, which will only be explained here, next month. If you want to tune into the telecommunications revolution, then this is the place to start.

GAMES GAMES GAMES

Our games section is going to get a new lick of paint next month. New sections will be added, new columns introduced, and a bigger hints and tips section begun. There will also be a whole host of top games up for review, as well as the start of a briliant in-depth player's guide to *Street Fighter 2*. In The Bin finally makes its debut, too – the column that speaks out against poor quality software. Law suits here we come! And as if that wasn't enough, we'll also be taking a look at some of the hot games destined to make an appearance on your Amiga sometime soon.

PLUS! 2 WHITE HOT DISKS

Yes, we've done it again. With playable demos of Electronic Arts' *Desert Strike* and Team 17's *Body Blows* set to adorn our games disk, we've also lined up a really fantastic utility worth more than £70. Where else can you find such outstanding value-for-money Amiga disks?!

AMIGA PROFILES

If you liked our interview with Tobias Richter this issue, stand by for more of the same in the months to come, as we take a look at some of the best work currently being produced on the Amiga.

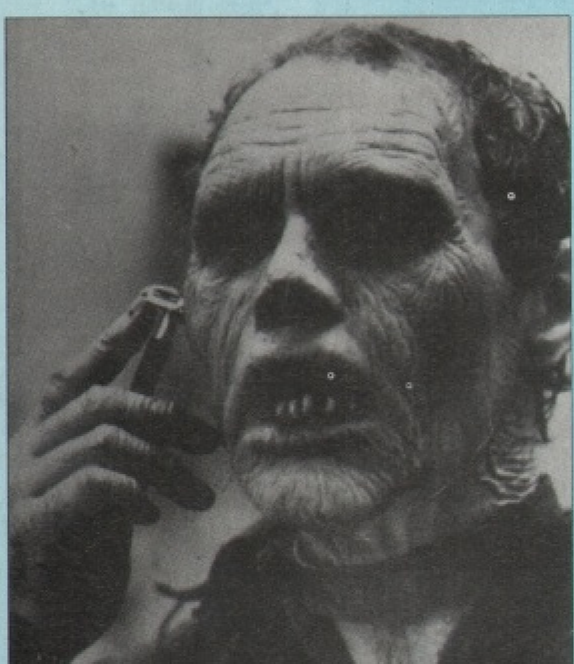
Contents subject to change without notice

CU AMIGA

FEBRUARY ISSUE ON SALE 26TH JANUARY 1993

SHAKING THE FOUNDATIONS

Public domain is a vital and thriving part of the Amiga scene, yet there are rumblings afoot which threaten its very foundations. Mat Broomfield gets out his geiger counter to find out what's afoot.



Now, we're not ones to say Mat doesn't look his best in the mornings, but we think this picture speaks for itself.

Q&A

Question: What do communism and public domain software have in common? *Answer*: They're both great concepts which never seem to work properly in practice!

The public domain circuit serves many purposes, but from the user's point of view, there is one main advantage to the system – it's a good way of legally acquiring software on the cheap or for nothing. But how many of us spare a thought for the program's authors? What's in it for them?

WHY DO IT?

Perhaps it would be better if we started by looking at some of the reasons that people spend ages working on a program only to give it to anyone who can spare a disk. So far as I can see, there are five main reasons:

1. The program is not of a sufficiently high standard to sell commercially.
2. The program has no commercial audience (either because it's too obscure, too small or has already been done better by someone else).
3. The programmer can't be bothered with the hassle of a commercial release.
4. The program wouldn't survive the copyright laws if released for money.
5. The programmer is generally good-hearted and does it for the benefit of his fellow man.

I'm going to concentrate on the second point. The PD market is awash with well-written, nicely presented programs which are just too small and obscure to sell. Take a program that converts HAM screens into extra-halfbrite ones. The program may work wonderfully, and look superb, but who on earth is going to pay good money for something so specific? The programmer's answer to that dilemma is to place his program into the public domain as a shareware offering.

This means that anyone can copy the program freely, but if they use it regularly they're supposed to send an amount of money to the programmer both as a form of gratitude, and as an incentive for him to continue working. Of course, the blatant flaw in this plan is that the majority of people are reluctant to pay for something if they're not forced to.

GETTING THEIR DUES

For this reason, certain PD companies developed the idea of Licenceware. Under this scheme, the user has to pay the fee before they can get hold of the program. Now, some might argue that by charging for the programs many people lose the incentive to try them out and thus their horizons are narrowed. Furthermore, that Licenceware is just another name for commercial software. This is true to a certain extent, but on the other hand Licenceware fees are usually only a fraction of the cost of commercial software and even at only a pound or so per disk (for PD) very few people indiscriminately buy everything that takes their fancy.

HYPOCRISY?

When Licenceware was first started many of the PD companies who didn't cater for such a service raised their arms in indignation claiming that the scheme was depriving the public of their 'right' to free software. I didn't hear many people screaming about the programmer's right to be paid for his work...

Of course, now it's a different story; almost all PD companies sell Licenceware, and some even deal exclusively with this kind of software.

'So what's the problem?' I hear you say. Well, in the same way that licenceware seemed to be a departure from the PD ideal, there are now companies who have taken the concept beyond its original motivation, which was to ensure that the author of a program received his dues.

A number of companies are now selling Licenceware at double the price quoted by the software authors, taking 50% of the price for themselves.

Not all companies who do this are using the extra money to line their own pockets. Some are re-investing the money into printing commercial manuals for the products, and ensuring through advertising that the widest possible audience gets to find out about them. Unfortunately, some companies are just money-grubbing scrooges who are growing rich at the expense of programmers too poor or distant to take appropriate legal action.

IS IT THE END?

Yet again, the whole foundations are being undermined, but this time certain companies are emerging as universally disliked villains; disliked, at least, by the other PD companies and their programmer victims.

The whole issue is an emotive and complex one, with many murky areas to ensnare the unwary. For example, if PD was only ever supposed to be a non-profit making idea, how is it that some companies have become so big that they require teams of full-time staff? You could argue that the PD distributors have to be able to survive whilst they're distributing, and this is an equally valid point. By the same token, you could further add that the more staff they have, the more software can be distributed, and the more the programmers can be encouraged, and this is also true.

I don't pretend to know all the answers. All I know is that there are a few companies out there who are blatantly profiteering from the hard work of well-intentioned programmers, and if it doesn't stop perhaps these programmers may decide that the licenceware idea is an even worse one than shareware and start seeking commercial distribution of their programs, or worse still cease programming or distributing all together.

Keep your eyes open, and comment with your chequebooks. You know what the going rate is!

VISION, SOUND AND ANIMATION FROM ROMBO THE WORLDS BIGGEST AND BEST



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Real Time Digital Effects

OVERVIEW

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PHASER-Applies space age phase shift.
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VIDI AMIGA 12 — IMAGE CAPTURE

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OVERVIEW

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Workbench 2.00 Compatible.

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TAKE 2 — ANIMATION

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OVERVIEW

Take 2, as used in *"Rolfs Cartoon Club"* is the ultimate multi-level animation package. Offering up to 4 levels of animation and 4 levels of sound. Images are drawn within your favourite art package then loaded into Take 2 as IFF files. If you own Vidi-Amiga you can digitise your drawings from within Take 2. We believe its much easier to draw with a pencil than with a mouse.

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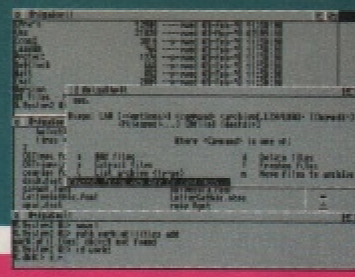
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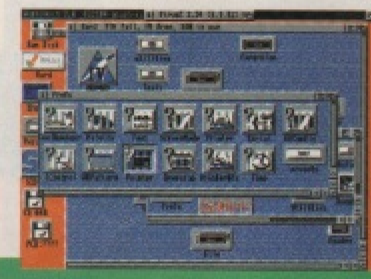
AMIGA Guide

THE COMPLETE GUIDE TO THE AMIGA

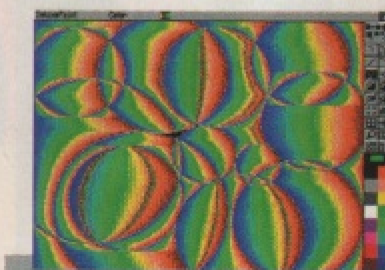
FOR BEGINNERS

THE DEFINITIVE GUIDE FOR NEW OWNERS

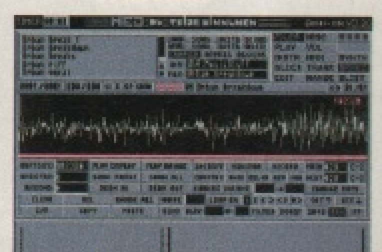




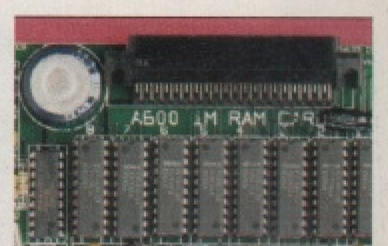
WORKBENCH P14



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THE AMIGA TOTALLY COVERED AND EXPLAINED IN SIMPLE TERMS

NUMBER THREE

FREE!

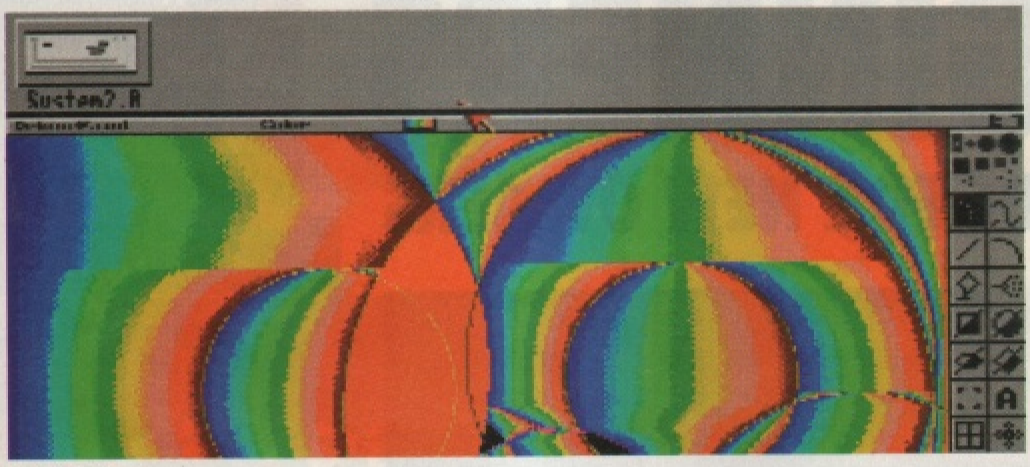
EXCLUSIVE TO CU AMIGA MAGAZINE! PART THREE OF THE MOST COMPREHENSIVE GUIDE TO THE AMIGA EVER PUBLISHED.

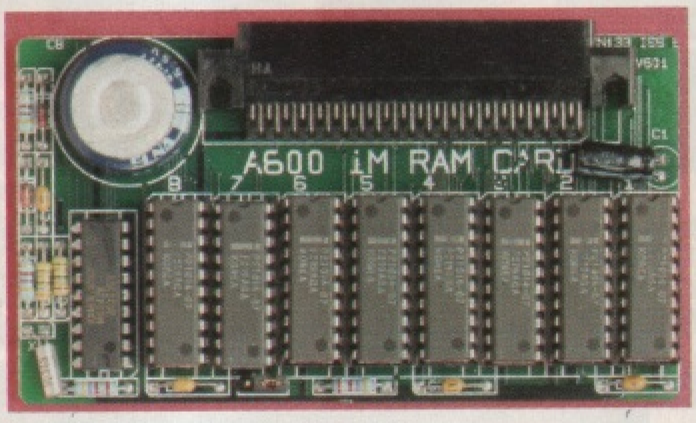
BEGINNER'S GUIDE



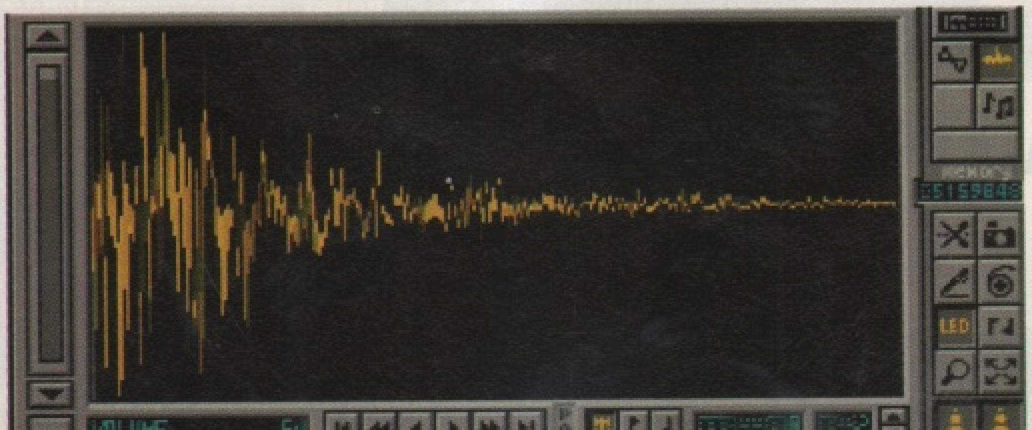
Which disk?

The story so far: you have recently acquired a very nice new machine with the word Amiga on it. Unfortunately you don't really have a clue about what's really going on. In desperation you find yourself reading CU's Amiga Guide in an attempt to get some answers. Now read on...


FMulti-tasking?



How much?



Sounds good...

EDITORIAL

Welcome to the third Amiga Guide, free with the January issue of CU Amiga. Over the coming months, Amiga Guide will cover every aspect of the Amiga, from programming, graphics and animation to music, video and desktop publishing. Each free magazine will cover a distinct topic, building up into one of the most complete guides to the Amiga ever published.

Last month we took a look at games. This month we go back a few steps for the benefit of all the new readers out there who have just acquired an Amiga and are puzzling out exactly what to do with it. We will be looking at your first steps with your new machine , explaining most of the jargon and hopefuly helping you to get the most out of your Amiga as quickly as possible.

The capabilities of the machine and how to harness them will be explained in simple terms throughout and even if you get a tad confused there is a handy glossary at the back of the issue to help you out.

Common problems will be dealt with in the amazingly cunning Q&A section, where we anticipate those early setbacks and try and get you on course again as fast as possible.

Finally there are respective sections detailing the various fields of interest in the Amiga. Be sure to read them or you may miss out on some of the amazing things your brand new computer can do.

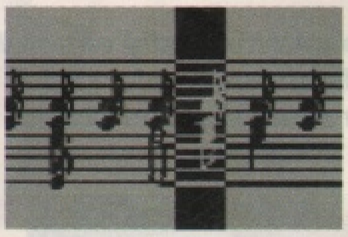
Whatever your level of experience with computers we hope you will learn something from this guide and stick with us in future issues as we explore the far horizons of the Amiga experience.

It's hoped that you'll enjoy these guides and get a lot out of them. Initial reaction to the first two guides has been incredibly favourable, but if you've any suggestions to make things even better, then please drop me a line at the editorial address.

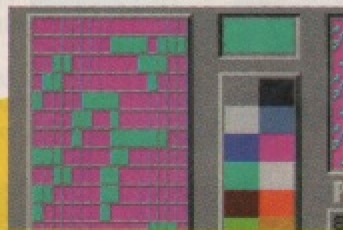
Nick Veitch, Editor.

contents













Yes, but what is it?



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This issue of Amiga Guide is free with the November issue of CU Amiga, Britain's leading Amiga magazine. It is not to be sold separately unless you really need the money.

WELCOME TO THE AMIGA

By buying an Amiga you have automatically entered an exclusive club. It's a club bound together through the use and enjoyment of a rather wonderful home computer. The Amiga is an attitude, a way of life, a small piece of plastic with lots of bits of electronics inside.



Whichever model you actually own, you will soon realise that the Amiga is part of a wide family. Although you may have had another home computer of which there were several different versions, your Amiga is part of an entire range of home computers which all share the same design philosophy. From the small but powerful A600, through the enhanced abilities of the A1200 to the flagship of the range, one of the most powerful home computers yet developed, the A4000, they all operate in a similar environment and to a great extent can all run the same software.

The A1500 and above have been biased more towards productive use by the inclusion of a Zorro card. This is an extension port attached inside the machine, so extra cards can be purchased and installed. A large number of cards are available for all sorts of purposes - modems, accelerators, hard-drives, video equipment - virtually everything you could possibly want to connect to a computer (and a few things you probably wouldn't) are produced to the Zorro standard.

The Chips

The reason that Amigas are so special is largely due to the custom chips. Instead of having the processor do all the work, as with conventional machines, the Amiga has certain tasks which are handled exclusively by custom processors. In effect you really have three computers in one. In the A600 the custom chips are slight enhancements of those found in the original A500.

Paula

Paula is the sound chip. We will be learning more about sound in a later part of this supplement, but to begin with perhaps we'd better explain how sound is generated on the Amiga. Instead of using a waveform generator and modulating the output, as machines like the Spectrum, Commodore 64 and Atari ST do, the Amiga deals directly with digital samples.

This does mean that the sounds take up more room, but it also allows a greater degree of fidelity. Paula can handle four channels of 8-bit digital sound at speeds of up to 44kHz. This is about the same sample rate as a CD, but because we are only dealing with 8-bit samples the quality is about half that of a CD. It's still pretty good as I'm sure you'll find out.

Paula is the oldest chip on the Amiga, and hasn't changed since the original A1000 back in the mid-eighties. It is due for an overhaul soon, but it still matches the sound performance of any other similarly priced home computer.

Agnus

Agnus has changed several times since the first Amiga. This is the chip which acts as a giant terminus for all the other custom chips. Because they have to share memory using DMA (Direct Memory Access) channels, there needs to be something to tell them whose turn it is and where to look. The Agnus chip controls what is known as the Chip RAM, the memory which is directly accessible by the other custom chips. Various versions of Agnus allow different amounts of memory to be accessed. The latest version allows the chips to access up to 2Mb of memory, more than enough for home use.

The Agnus chip is also home to the Copper. The Copper is a graphics co-processor which can be programmed to alter the colour palette and the screen resolution at any point in the screen's display cycle. It is the copper which makes possible those graduated screen effects and, more usefully, the ability to drag different Amiga screens so that more than one is displayed at any time. As well as these duties, the Agnus also contains the blitter, a really fast piece of circuitry which is designed to do one thing only – move memory. The amazing speed with which the blitter can manipulate memory makes many graphics effects possible which are belied by the relatively slow processor speed of the 68000.

Denise

The Denise chip is the one which controls the graphics display modes. It doesn't do anything exceptionally clever, but being able to generate all those different screen modes is clever enough. The A600 is equipped with an ECS (Enhanced Chip Set) Denise, which allows more screen modes (such as super high-res and productivity) and also has extra functions which add flexibility to any genlocking activities you may get up to.

INTROINTRO



The A1200, the best value Amiga at the moment.

THE PROCESSOR

The standard processor for the Amiga, as fitted to the A600, is the Motorola 68000. Clocked at a speed of 7.14 MHz, this is a bit pedestrian by the standards of other computers.The Amiga's processor is its brain. It does all the calculations and executes all the programs, passing on instructions to the custom chips when necessary. The Motorola 68k series is also used by Apple in their macintosh computers, but you are unlikely to find a Mac that uses anything less than a 68030 chip. This is because these machines don't have custom chips and rely on the processor to do all the work, including graphics and sound. Even then most are unable to keep up with the blistering pace of the Amiga.The new Amiga 1200 uses a 68020 chip, which not only executes instructions about four times faster than the 68000, but also allows the addition of a maths co-processor. A co-processor is a custom chip designed to speed up floating point calculations (hence it is known as a floating point unit or FPU).

So what good are all these chips?

Well, for a start they enable the Amiga to be a very effective and relatively cheap games machine. That is in fact what the Amiga was designed for in the first place. Jay Minor and the other fathers of the Amiga were actually working on a games machine for Atari until they ran into financial trouble and Commodore bought up the whole project.

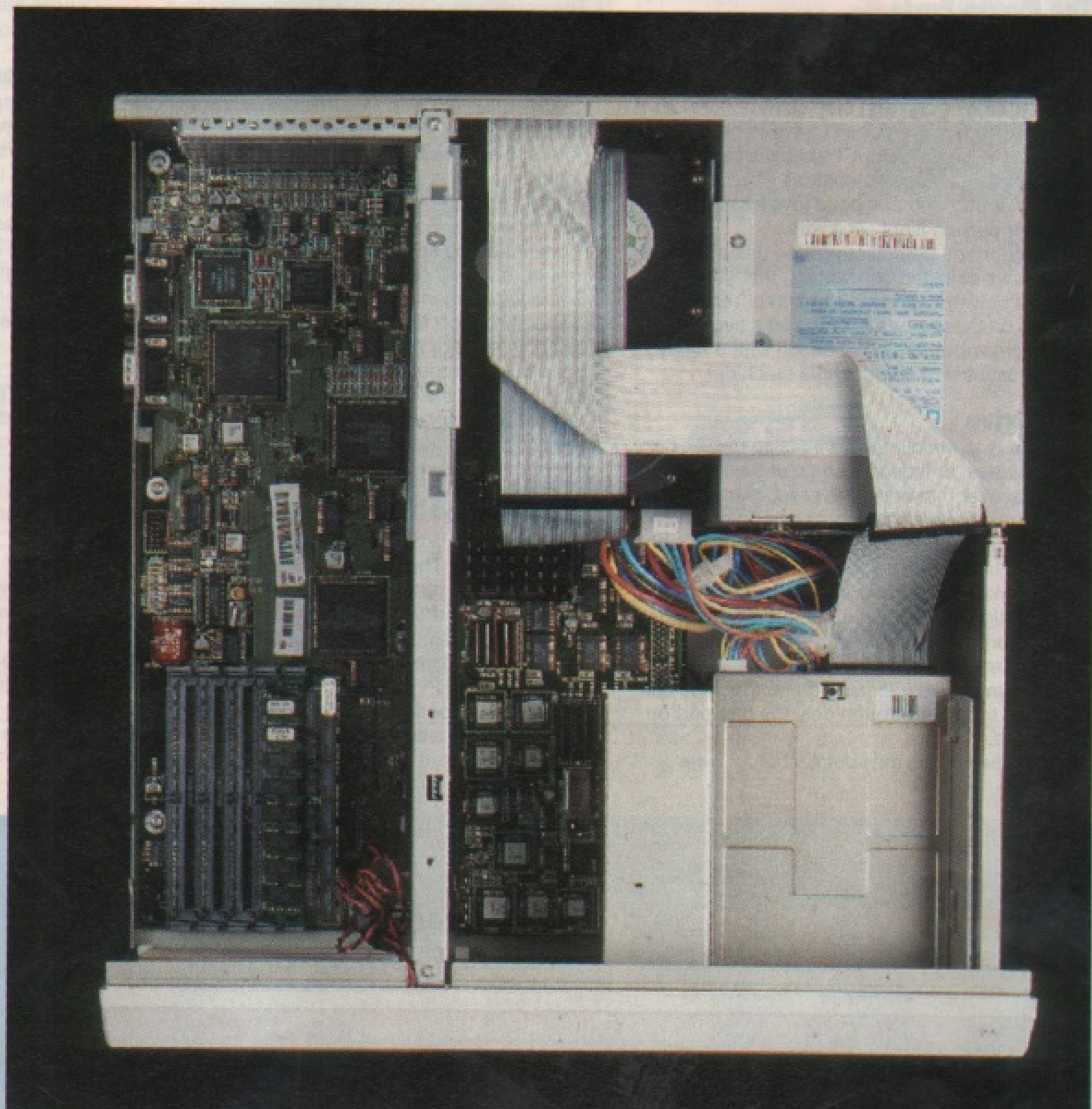
Being a decent games machine also means that the Amiga is capable of some pretty advanced professional work. In order to be a good games machine the hardware has to be a lot better in terms of speed, sound and graphics than if it were just designed to be a word processor.

Having excellent graphics makes it incredibly useful as a tool for designing artwork, animations, desktop publishing, and of course video work. The Amiga is already used professionally by many small video companies. Even some TV operations use Amigas to generate titles and effects. Some of the software and hardware available to the Amiga desktop video enthusiast is unrivalled by any other personal computer.

The sound capabilities aren't quite up to CD standards, but the Amiga can still form part of a useful studio with the simple addition of a MIDI port. The software available for the Amiga is impressive in this area too. So impressive in fact that an Amiga running *KCS3.57* was used by Madonna whilst recording an album.

The Amiga has the most advanced operating system of any home computer too, because it multitasks. This means that it can carry out two entirely separate operations at once. This is not the same as task switching, which is possible on the Mac and PC, because in their case only one task can be active. On the Amiga more than one process can be active at a time. So what? Well, it means you can use a wordprocessor (like I am doing now) and process graphics (like I am doing now) at the same time (like I am doing now). The computer intelligently uses the time it would otherwise spend waiting in one task to carry on with the others.

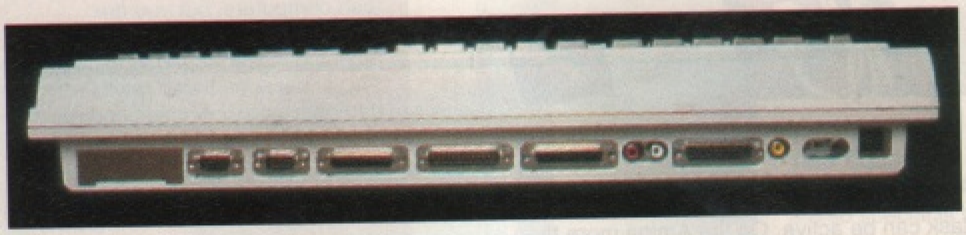
It doesn't matter if all you want to do is play games, fiddle about with *DPaint* and maybe compose a few demo tunes – the point is that the Amiga



The insides of the Amiga 4000, now the flagship of the Amiga range. This is far from being just a home computer – yet it will still run almost all of the software developed for its lesser brothers.

EXPANSION PORTS

There is an awful lot going on at the back of your Amiga. It is a machine that likes to connect to the world outside. Here is a brief guide to what the ports are for, and what you would most likely find hanging off the back of them.



It isn't enough that you've got a computer, they all have an inbuilt obligation to buy lots more devices to keep them company. The main method of affixing things to your computer is not superglue, but the interface ports to be found along the rear of your keyboard unit.

The Mouse Ports

These are standard 9-pin connectors which you can use to connect a variety of input devices to your Amiga. Okay, so most people stick their Terminator joysticks and their Commodore mouse in here, but it doesn't have to be that way. The ports will also accept Trackballs (a kind of inverted mouse), paddle controls (if you can still find any about) and analogue joysticks, all the better for playing flight sims with.

It is important, particularly when using devices which have shielded connectors, that you disconnect the power when trying to add or remove devices on these ports. It only takes two of the pins to cross out for you to be left with a nasty burning smell and an unusable machine.

Disk Drive

This port is to enable the connection of an external disk drive, or indeed a chain of them. You will soon discover that being the proud owner of a mono-drive Amiga is not conducive to remaining out of the sanitarium. AmigaDOS seems to work a whole lot better with two drives (because you can keep Workbench permanently in one of them).

The Amiga can handle up to three drive units in total, so on a A600 or A1200 this means that you can add an extra two at the back. These drives usually have a daisy-chain port so that they can be linked together through only the one port on the Amiga.

Having two drives may put a strain on your Power supply though. Commodore do not recommend the connection of more than one external drive unless they are powered from an external source. Some companies produce models with two drives in a single unit, powered with its own supply, but for most people one extra drive is enough.

Serial

The serial port is both an input and an output device and is used primarily for communications. The most common peripheral to be connected to this port is a modem, which allows your computer to connect to a phone line and exchange data over the phone with other similarly equipped computers. Because of the nature of serial communications, it doesn't actually matter what kind of computer you are talking to at the other end of the line. Software is required to drive a modem but the best programs are available either free or relatively cheaply under Public Domain or Shareware schemes.

The serial port is synchronous which means it can only send or receive in sequence at a regulated rate. Computers communicating in this way must do so at the same speed. the Amiga is fairly reliable up to speeds of 38400 baud, though you are unlikely to be able to find a phone (or an affordable modem) that can handle this speed.

Parallel Port

This interface, like the serial port, is both an input and an output. The parallel port is much faster than the serial port because it is asynchronous and not tied to a specific speed at which to operate. It also has multiple lines so data does not have to be transferred one bit at a time, but can be sent in bytes.

The parallel port is not often used for communications between machines though, because it is very expensive to encode multiple channels of information down a conventional phone, and it would also only be able to transfer data at the same speed as a serial device when used in this way.

The parallel port is used for local communication though, such as connecting the Amiga to a printer.

Many peripherals use the added speed of this port to their advantage. Samplers and digitisers, which require high speed data transfer, often use this port.

Audio ports

The audio connectors, one right and one left, are standard RCA phono plugs, so you won't have any difficulty connecting them up to an amplifier. They could also be connected to the audio input of a video, or a set of stand-alone speaker-amplifiers if you don't like the quality of the sound from your TV.

Video Port

This port provides the red, green and blue video signals, plus the synchronisation signals, which are required by RGB monitors. This is the best quality output you can hope to achieve on the standard Amiga. If you don't have a monitor, check that your TV doesn't have a monitor input before connecting up that nasty modulated signal.

Composite Output

The composite output is provided in the standard form used by composite monitors and video recorders. Although it is easier to connect (being just one lead) there is a lack of quality due to cross channel interference in the encoding and transmission process. It still has an advantage over the modulated output (because the modulated signal is essentially the same signal with a further encoding process on top) so you might like to use this if your TV or video has a composite input.

TV output

The modulated signal from this port can be directly connected to the aerial socket of a receiver. This signal carries both the sound and picture information, but it is not a very good quality signal as you will soon discover.

Power Socket

This is where the split power supply is delivered to the Amiga. The highest voltage here is only 12v, but it could still be dangerous, especially if you fuse or ground it. Try to make sure that the Power supply is firmly fitted to the Amiga before you turn it on. Many apparent problems with the machine are down to an ill-fitted power lead, so it's worth your while to check.

EXPANSION

AMIGA INTERACTIVE MULTIMEDIA

A NEW AGE IN HOME ENTERTAINMENT

AMIGA CDTV INTERACTIVE MULTIMEDIA

WHAT IS CDTV?

Simply put, CDTV mixes CD sound and Amiga type software in one easily controlled unit, and allows you to "interact" with the results through your television. On the outside the CDTV Standalone Player is a sleek, elegant black box. Inside it contains the workings of the UK's most popular home computer, the Commodore Amiga, but with two major differences. Instead of a keyboard and mouse it uses a video style remote controller for simple operation and, instead of a floppy disk drive, there's a compact disc drive.

MUSIC & SOFTWARE

As well as being able to play standard studio compact discs in high quality stereo sound, the CDTV can also use software stored on CD. This is similar to Amiga softwre, with thousands of Amiga programs available. You also get much, much more - a CDTV Disc is equal to over 600 floppy disks in capacity.

WHAT CAN IT DO?

With CDTV you can listen to your favourite pop group, look up history, play the latest arcade games, have a Karaoke night or learn French. In one unit, CDTV can do things you would otherwise need a video, CD player and computer to do! You can watch as Neil Armstrong walks on the moon, listen to him speak and read the fascinating details of how Apollo got there!

INTERACTIVE MOVIES

A new kind of movie; hi-fi sound tracks and moving pictures just like cinema films, but you determine the outcome and how the plot turns out! Will Batman really save Gotham City? Interactive movies are set to arrive on a CDTV near you soon.

EDUCATION

With its huge storage capacity, colour graphics and easy control, CDTV is ideal for education. Levels from primary education to adult foreign language courses are available.

ENTERTAINMENT

Packed with masses of colourful graphics, hi-fi sound and huge levels, CDTV games are set to dwarf their Amiga counterparts. The CDTV award winning version of Sim City for instance, has 10 Megabytes of extra graphics, studio recorded sound for CD Audio quality, more detailed game play (new zoom mode) and 4 different eras (Medieval, Western, Actual and Future).

REFERENCE

Imagine that you could refer to several encyclopaedia's at once, without having to constantly swap between publications, flip pages or refer to lengthy indexes across multiple books? CDTV Reference titles enable you to do this plus a lot more!

MORE FORMATS

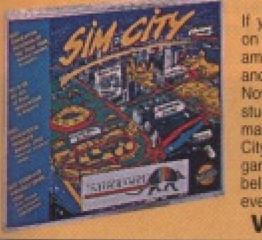
CDTV can play CDTV software, CD audio discs, CD+G (audio discs with lyrics and pictures), CD+MIDI (special tracks along side the audio tracks control MIDI instruments attached to the CDTV). With the aid of a floppy disk drive and keyboard, CDTV can also run most Amiga software.

TECHNICAL SPECIFICATIONS:

- 68000 16/32 Bit processor running at 7.14MHz.
- 3 Custom chips for video, sound and graphics.
- Internal video expansion 15-pin edge connector and DMA slot.
- Analogue RGB, Digital RGB, Composite (PAL) video output.
- 512 Lines/Vertical frequency 60Hz display.
- Maximum 1Mb video memory, with palette of 4096 colours and 8 sprites per scanline.
- Centronics Parallel & RS-232 serial interfaces.
- External floppy drive (Amiga compatible), hardwired alternative to remote control for keyboard, mouse etc.
- 2 Audio ports (phono), MIDI IN and MIDI out. Stereo headphone socket. Smart Card slot for RAM/ROM cards.
- Sony/Philips type CD-ROM standard with an average access time of 0.5 seconds & maximum access time of 0.8 seconds.
- Data Capacity 540Mb.
- Conforms to standard ISO 9660.
- 8 x Oversampling.
- Signal/Noise of -92Db.
- Audio Ouput to external output 1.4V RMS, 10K Ohm.
- Frequency response of 4-20 KHz.
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WORTH £29.99

CDTV ADD-ON FOR AMIGA OWNERS

AMIGA A570 FOR THE A500



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- Internal RAM expansion option (Coming Soon)
- Internal hard drive option (Coming Soon)
- Compatible with CD + G and CD + MIDI formats
- Transfer time 153Kb/second
- Compatible with CD-ROM industry standard ISO9660
- Comes with Fred Fish CDPD collection + Sim City FREE from Silica

Note: 1Mb of Chip RAM/FAT Agnus is required for full compatibility with all CDTV software. Silica offer an upgrade service. Please call and quote REA 1000.

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- Compatible with CD+G & CD+MIDI formats
- Upgradeable to a full computer
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- Includes:- Lemmings: The addictive, award winning game. Hutchinson's: A vast encyclopedia

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Silica Price:	£369.00

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£369

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- Infrared Remote Control
- Sleek black design
- Keyboard, disk drive and mouse included
- Based on the best selling Amiga computer
- Plays CD audio discs
- Compatible with CD+G & CD+MIDI formats
- Over 100 CDTV titles available
- Compatible with 100s of Amiga programs
- Fred Fish CDPD is a 'collection' of 660 disks of public domain software. It include utilities, applications, games and tools.



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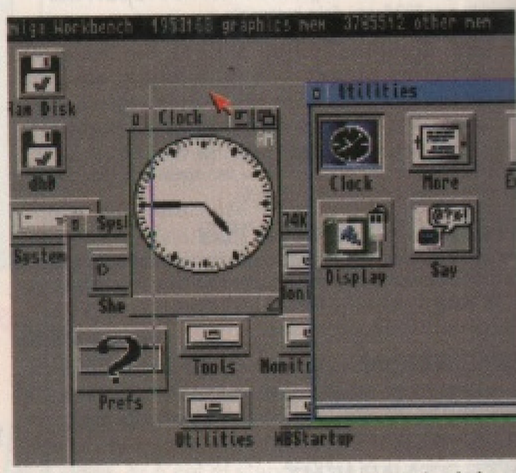
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Which computer(s), if any, do you own? 99A

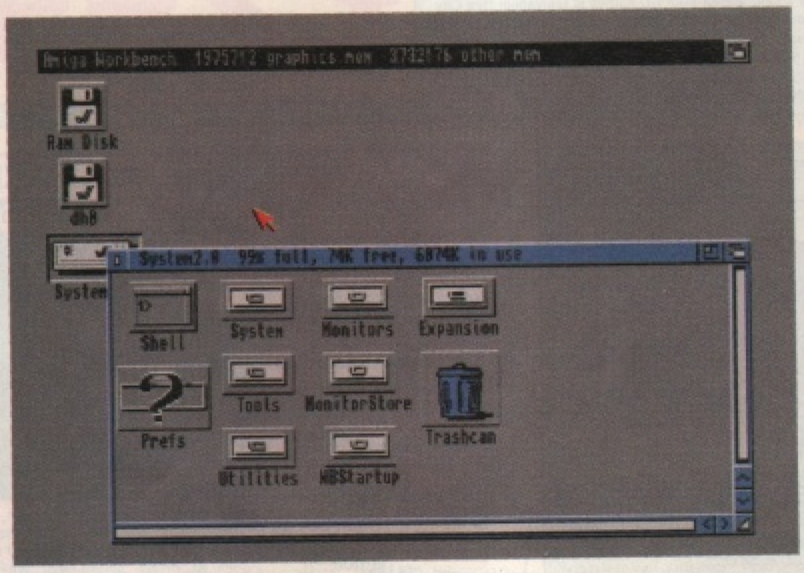
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AMIGA DOS

Even if you only ever use your Amiga to play games, there will come a time when it is not only useful, but also necessary for you to dirty your hands with the business end of the computer. This little guide should help you come to terms with the operating system, which you may, in time, come to love and respect



Windows may be dragged around the screen simply by clicking and holding the drag bar whilst moving the mouse.



AmigaDos is the operating system that is used by the Amiga range of computers, in various versions depending on which machine you have and when you bought it. The A600 uses AmigaDos version 2.1, and since most of the new additions to the Amiga world will own an A600, that is the one we will be concentrating on. If you have an Amiga 1200 or an A4000 don't worry. All of the things we are about to explain for AmigaDos2.1 will work on AmigaDos3 as well.

What is an operating system?

The operating system, or OS, is a software program that allows the user to interact with the computer and its devices, and to allow access to any of the files or applications which are stored on compatible media. Usually it is this software that you will run first when you turn on your computer, as it is necessary in order to use a lot of applications written for the Amiga.

The software for running the operating system is stored in two parts. the first part is in ROM on board your computer. This ROM, known as the Kickstart, contains the instructions for the startup-sequence of the computer and also instructions on how to access some of the machines devices, such as the floppy disk drive. A large number of sftware routines are also present on the ROM which enables slightly faster execution of programs.

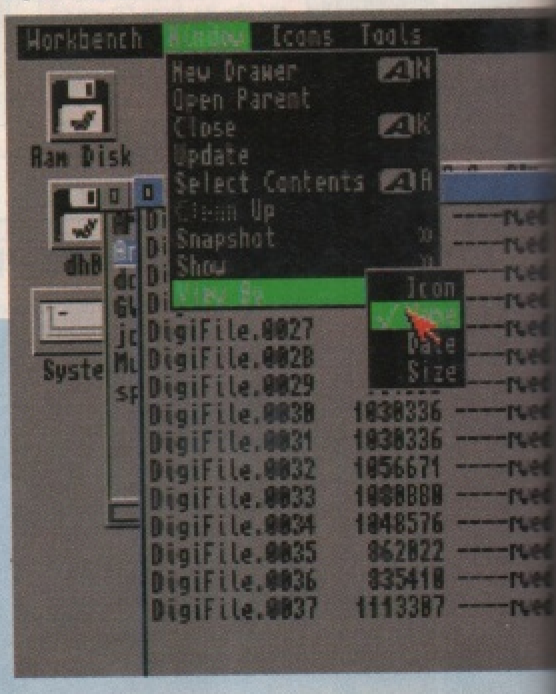
The rest of the operating system is loaded in from floppy-disk.This is the Workbench disk that is provided with your Amiga. Although the disk is completely full, not all of the files are needed to make the OS work, as we'll see later.

If you have graduated onto the Amiga from another home computer system, such as the CBM64, the Spectrum or the BBC then you probably haven't come across an operating system before. These machines had an interpreted BASIC language in ROM so in order to use the computer itself you had to program through the BASIC language. The operating system on the Amiga is more geared towards locating and executing files stored either in RAm, floppy-disk, Hard-disk or CD-ROM. In this way it is very similar to the Apple Macintosh and the IBM PC.



Windows may be scrolled using the bars at the bottom and side.

Viewing files by name is the only way to get a good look at them without resorting to the CLI.



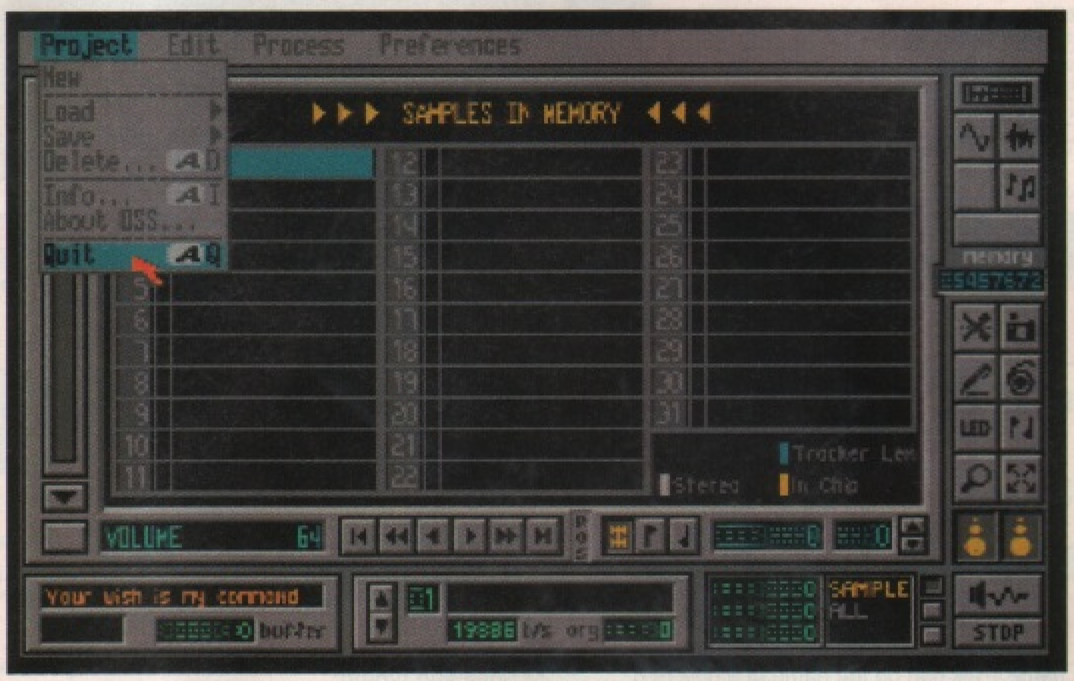
Who are you calling a WIMP?

The operating system is based on a concept known as Windows Icons Menus Pointers, or WIMP for short. What this means is that access to the computer is controlled largely via the mouse and not the keyboard. Xerox came up with the idea years ago that life for the computer user would be a lot easier if they didn't have to remember the names of files and take RSA typing stage three to be able to use their machine. Instead files should be represented graphically on the screen and the user should be able to access them simply by pointing and clicking with the mouse.

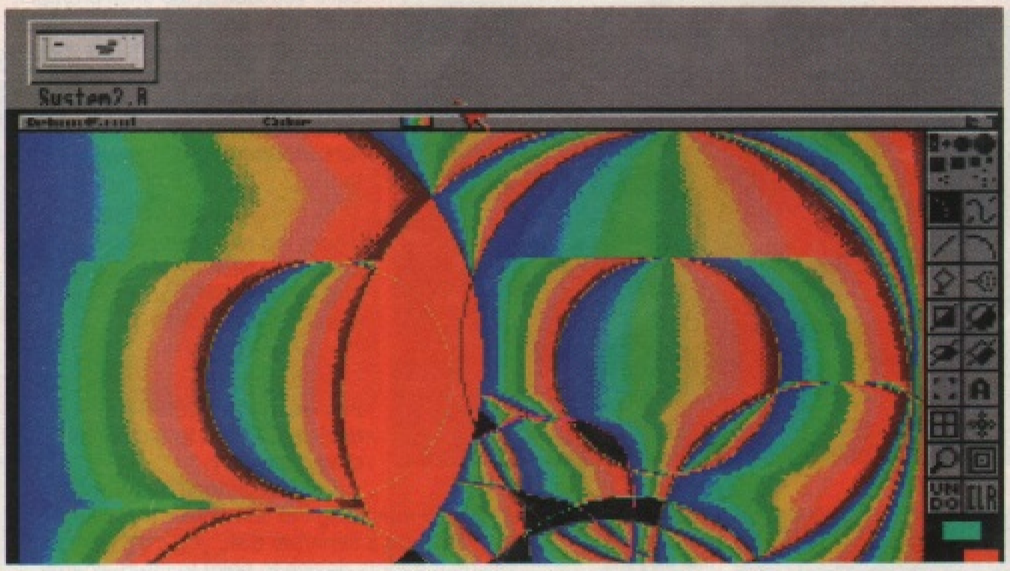
The little pictures (icons) and associated information on a file are stored in a seperate file under Workbench, called the "info" file. Thus for an application such as "Med", there will be another file called "Med.info". The Amiga Workbench differs from the Macintosh system in that some of the files are not given icons. This makes sense, especially when using a hard disk as the screen would soon be chock-a-block with all sorts of files. Usually only applications are given icons, because these are the files that user will wish to access. The data files containing information used by the applications are more often than not left without icons, which under normal circumstances means that you will not be able to see them. You can view them however, if you select the "Show All" option from the workbench menu. For example, boot up using the Workbench disk and wait for the startup routines to finish. Using the pointer, double clik on the disk icon and a window will appear in the middle of the screen. The window contains lots of drawers corresponding to various parts of the system software. Move the mouse inside the borders of the window and click once. Now hold down the right mouse button (or menu button) and you will see that the top bar across the screen changes and lists a number of topics. Still holding down the menu button, move the pointer to the word "Window". A list will appear underneath the word. This is a menu. Whilst still holding the button, move the pointer down the list to the item marked "show". When you reach this item another menu will appear to the side of the word "show". Now move the pointer over the words"all files" and release the menu button.

The disk drive will become active as information is read off it. When it has finished more drawers will be visible in the disk's window. These are directories which have no ".info" files, but corresponding icons have been created for them by the operating system.

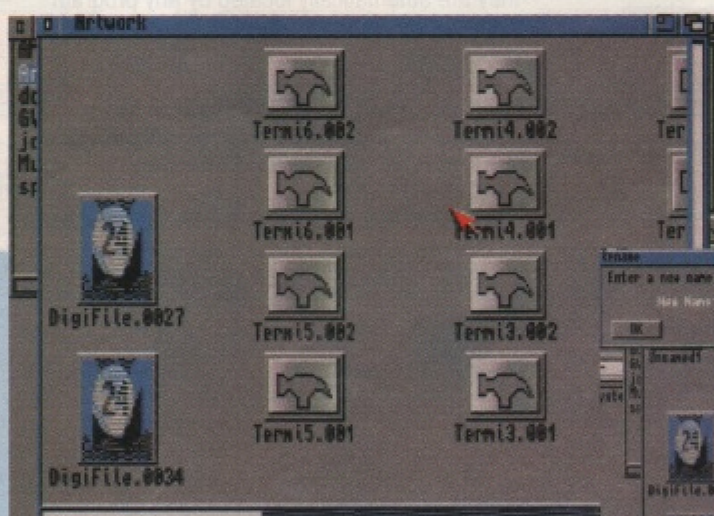
DOS

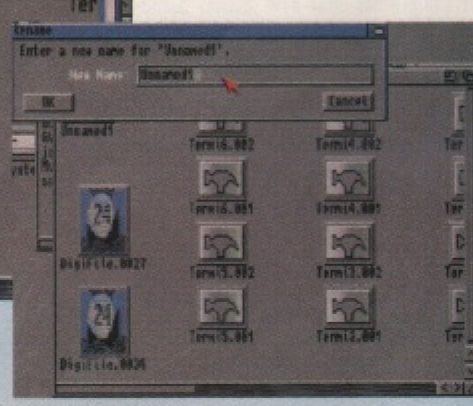


Almost all Amiga applications follow the style conventions. One of these is that 'quit' is always the bottom option on the first menu.



More than one application can run at once under AmigaDOS. Here *Deluxe Paint* is running and we can drag down the window to see that Workbench is still in operation.





Even files which have no icons can be viewed on Workbench 2. They are given default icons by the system when 'view all files' is selected.

So what's this CLI thing then?

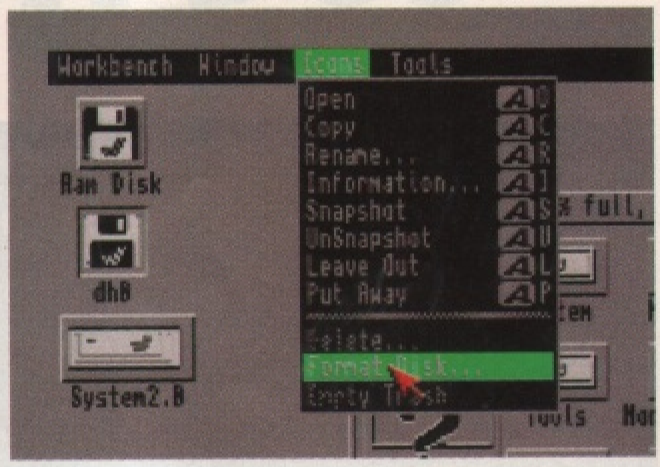
Although the WIMP system is very efficient and easy to understand, there are still some things that can be done better by a more traditional Command Line Interface, as used on the IBM PC. In fact the Amiga uses a mixture of the WIMP environment (like the Mac) and a CLI (like the PC) to give the user the best of both worlds. It is completely possible to use your computer using solely one of these methods, but a bit of both is usually preferable.

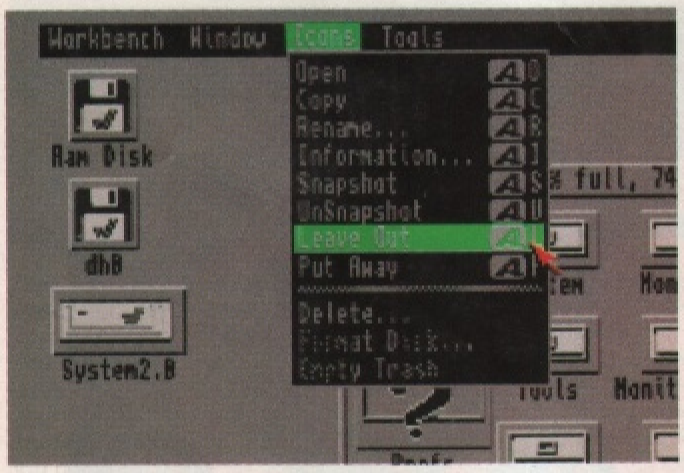
You can gain access to the CLI by double clicking on the "shell" icon, found on the workbench disk.

A small window will open up and you can then pretend that you are using a PC, by typing in commands (although not all the commands are the same as those in MSDOS). For example the command "dir" will list the directory that you are currently in, showing all the files that can be found there. The command "cd name" will change your current directory to a directory called "name". Directories are arranged on the disk in a tree fashion, and it is necessary to step along the tree to get to the place you want to be. Often this can be done with one command though. For example, to get to the printer device drawer on your Workbench disk you could use the command `cd Workbench:devs/printers'.

Note that a name with a colon after it is a device name. This can be the name of a disk (e.g. Workbench), the name of a physical device (e.g. Df0:) or the name of a logical device.

Formatting a disk is simply a matter of choosing a menu option – much less complicated than the PC.







Leaving out icons means that they will appear on the workbench screen itself.

Sounds Logical

A logical device is one which, although it is not actually a separate physical entity, it is convenient to think of it that way. There are plenty of examples of logical devices on your normal Workbench disk.

The fonts directory is a logical device which is set up when you boot up your machine through Workbench. Try going into the CLI or Shell and typing:

"cd FONTS:" You will now be in the fonts device, but if you look at the shell prompt it says `Workbench:fonts>'. In effect, logical devices are simply a shortcut, but they can be very useful too.

In order to create your own logical device, you may use the Assign command. The syntax for this is:

"Assign devicename path"

where the two parameters are the name you wish to give the device and its ordinary directory path. For example, if we enter:

" Assign Printers: workbench:devs/printers"

then we have created a logical device attached to the printer driver directory.

You can change these assign simply by re-issuing the command. If you kept all your fonts on a separate disk, you may want to re-assign the fonts device to point to them, so that they are automatically located by any program which wishes to use fonts. You can do this by simply typing:

"Assign fonts: fontdisk:"

There are plenty of other useful commands which can only be really useful by accessing the CLI. Try reading about them and what they do in your AmigaDos manual.

YOU WHAT?

The names given to the various features of the WIMP environment can be a little confusing, so here is a little guide to what all that jargon really means.

Menu

These are the little lists that pop down from the top of the screen. The list contains elements known as items, and may in some cases contain further menus. Menus are accessed by holding down the right mouse button and moving to the top of the screen.

Pointer

The pointer is the red arrow which follows the direction of the mouse. You may change the design of the pointer to suit your needs, and indeed many programs will do this automatically when you run them.

Window

A window is a box within a screen. Windows usually have a title bar, with their name in, a resizing gadget and scroll bars so you can see what is contained within. A typical example of a window is the one which appears on the Workbench screen when you double click on a disk icon.

Icons are the small pictures which some files (usually programs) and devices are given to help you locate them on the Workbench.

String Gadget

This is the term used to describe a window containing nothing but a text box and a flashing cursor. These are often used by programs when they are asking for informain such as your name, or the date, etc.

Shell Hints

When using the Shell you can take advantage of some of the advanced editing options. The cursor keys will allow you to move backwards and forwards through what you have just typed and also the backspace and delete keys will allow you to delete forwards or backwards from the current cursor position. Using the `up' cursor invokes the shell memory, and you can scroll back through a list of commands that you have already issued since you ran the shell.

DOS

EASY ACCESS

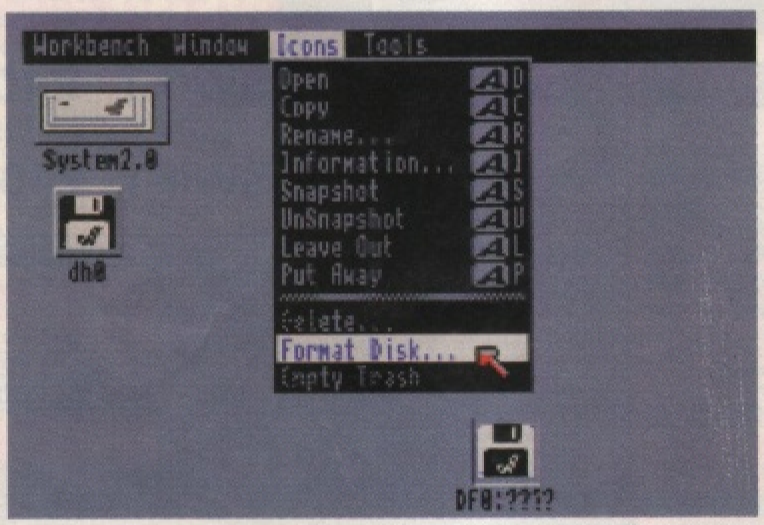
Fortunately for the less able, Workbench now has an execute function available. Simply select the execute command item from the Workbench menu (or use the hot-key `Amiga-E') and a small gadget will pop up in a window on the Workbench screen.

You can type in any command you like, and it will be executed. The default directory for commands is taken to be the C: directory, but if you start with the pathname you can execute commands anywhere.

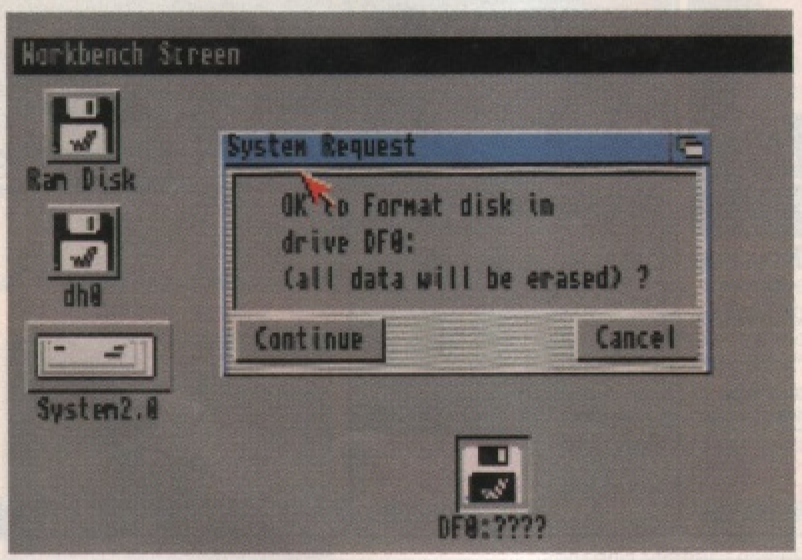
To use this gadget just click in the text window. When the cursor appears you may type in the command. Pressing return will execute it. If the command is one which generates an output, a window will be opened on the workbench screen to show you the result. This is an easy way to get used to the Workbench commands without having to trouble with using the Shell.

DISKS

The fundamental unit of data storage is the floppy disk. They are small (3.5" isn't big no matter what Tony Horgan says), plastic and usually a rather unpleasant shade of blue – but how much can you fit on one and, more importantly, why aren't they floppy?



To format a blank disk you simply have to select the disk by clicking on its icon and then select format from the Workbench menu.



Unless you are fortunate enough to already own a hard drive, you are going to be spending a great deal of time dealing with small squares of plastic known as floppy disks.The floppy disk is one of the most bizarre parts of the entire computer industry.There are at least two things you should know about floppy disks. The first is that they are not floppy. Not unless you leave them under the grill for too long. The second thing you should know is that (as I'm sure you've guessed by now) they are not disc-shaped. They are in fact more or less square.The reason they are called floppy disks is not necessarily to confuse people, but because they do actually contain a floppy disk inside.

The disk is made of a thin bit of plastic coated with a compound containing iron oxide granules. Data is stored on this surface magnetically by the disk drive head, which, when in operation, floats slightly above the surface of the pinning disk. The accuracy this gives allows around 880k of data to be stored on just one disk. That's about the same information as an airport paperback, but your computer doesn't have to go on holiday to Cyprus to read it.

Format

The disk format is the set of rules by which data is organised on the disk. If there wasn't a format, the computer wouldn't know where to look for the data or what sort of data it was, even if it could find it. AmigaDOS disks are organised on a system of 512 bytes in a block, 11 blocks to a track, 80 tracks to a surface and two surfaces to a disk. Some of these blocks are reserved for use by the computer, to store directory information on and to indicate what type of disk it is.

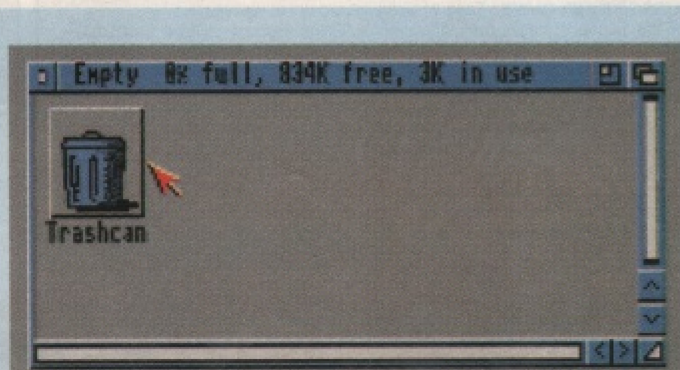
The 'boot' block of the disk indicates whether the disk is just an ordinary data disk, or whether it is one that the computer should try and boot up from. If it is a bootable disk, small programs can be inserted into the boot block which are executed when the disk is read during startup. This is the method games use so that you don't have to go through AmigaDOS first in order to use them.

Before a blank disk can be used by the Amiga, it has to be formatted. This is quite a simple operation. Insert the disk into your disk drive and wait for the computer to recognise it. It will have a few goes at trying to read information and then give up, leaving a standard icon on the screen with a label of "DF0:BAD????", which just means that AmigaDOS hasn't recognised the disk.

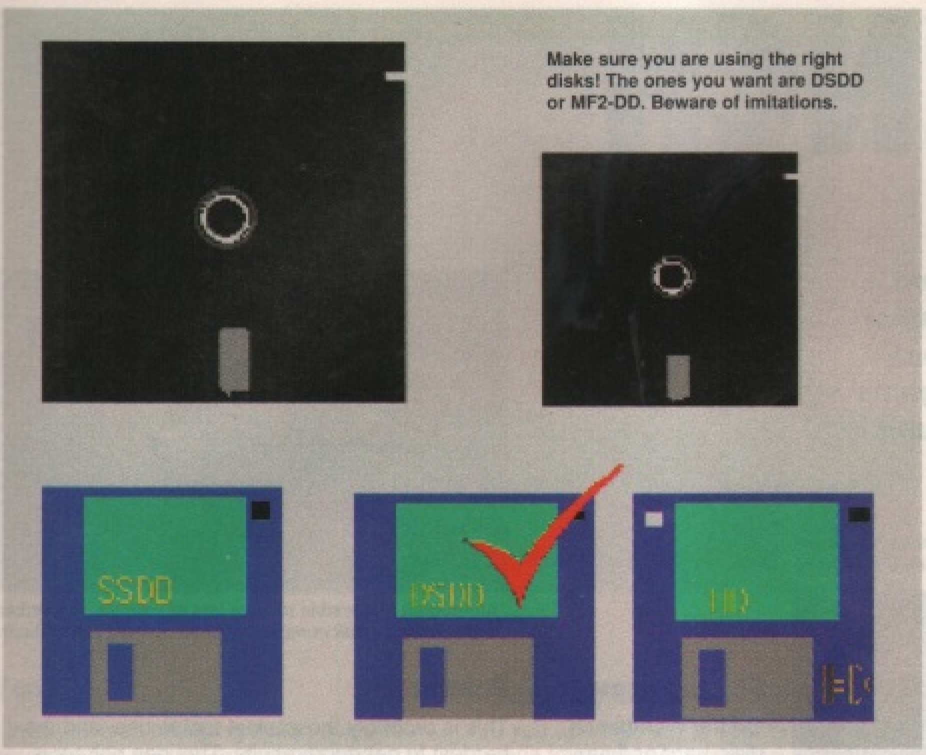
Select the icon by clicking on it once with the left mouse button and then select 'Format Disk' from the Workbench's 'Icon' menu. A small requestor will appear, asking if you are sure that you really want to do this (in case you have accidentally selected format) because any data on the disk will be lost. Since you have no data, there is nothing to worry about so just click on 'Okay'.

After about a minute the disk will be ready to use. You may notice that there is a quick format option when the requestor pops up. This is only to be used if the disk you are formatting has previously been formatted as an AmigaDOS disk. This option is provided because it is often a lot quicker (and less messy) to re-format a disk rather than delete all the files on it.

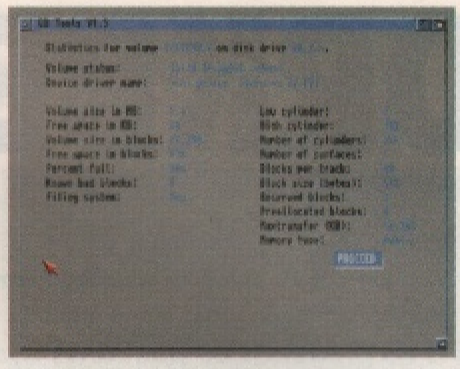
DISKS

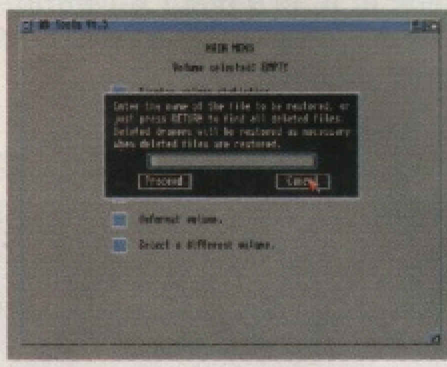


Even a completely formatted disk will have some data on it. Disks are automatically formatted to have a trashcan directory on them.



Make sure you are using the right disks! The ones you want are DSDD or MF2-DD. Beware of imitations.





Programs like *Quarterback Tools* will help prevent a problem turning into a crisis.

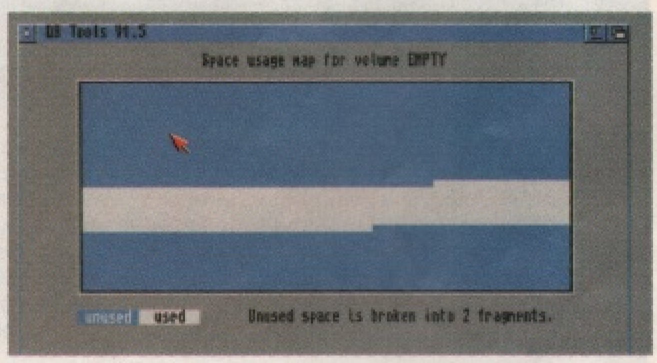
Protection

Today's floppy disks are a lot more reliable than the older types such as the 5.25" and 8" disks you may see in some museums. The old disks were made of the same material, but instead of a plastic case they just had a cardboard sleeve. Worse than this, there was no metal flap or anything, just a hole which left the magnetic material exposed to the air! The 3.5" disks are much better protected (they even contain little cleaning pads to prevent the build-up of dust on the disk's surface) but you can still have some problems. In the result of a disk error, the Amiga may claim that your disk is unreadable and suggest that you try using the diskdoctor program to correct it (as found on the Workbench disk). This is a definite last resort. There are much better disk rescuing programs around, such as FixDisk (which is Public Domain) and Quarterback Tools (which isn't). Usually the error is only on one block or track, so probably over 90% of the files on the disk are still okay and can be rescued using the right software. Unfortunately if the error is on a commercial disk, especially a games disk, even losing one file can render the entire software package unusable. Now you know why everyone tells you to make backups.

Copying Disks

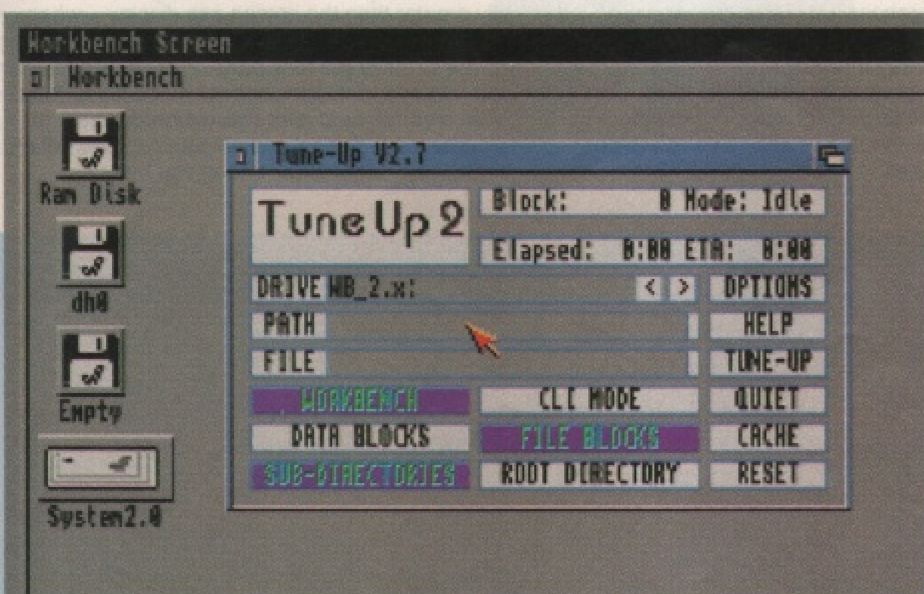
There will probably come a time when you will need to make a copy of a floppy (like when you are making all those backups that we told you to). This is quite easy to do under AmigaDOS, but can be slow if you have only one drive (because you'll have to swap the disks a few times, depending on how much memory you have available).

To do this simply insert the disk you wish to copy and select it using the mouse. Then choose 'copy' from the Workbench's Icon menu (or use the Amiga-c hotkey). A box will appear on the screen asking you to put in the source disk (in this case the one that is already in there) and click 'Okay'. Just click Okay and the computer will read the data on the disk. When it hasn't got any room left in memory it will ask you to put in the destination disk. Just swap the disk for the one you wish to copy onto and click okay. When you have finished you will end up with an exact duplicate of the first disk, except it will be called 'copy_of_xxxx' where 'xxxx' is the name of the original disk. You don't need to have formatted the destination disk, as because it is a direct copy of the original all the format information is copied over too.



All the files on an optimised disk are arranged around the root directory for speed. They are also allocated to regularly spaced blocks to enable the drive to read them in one continuous action.

Disk organiser programs will minimise the time taken to access data by re-recording it in a sensible way.



Disk Do's And Don'ts

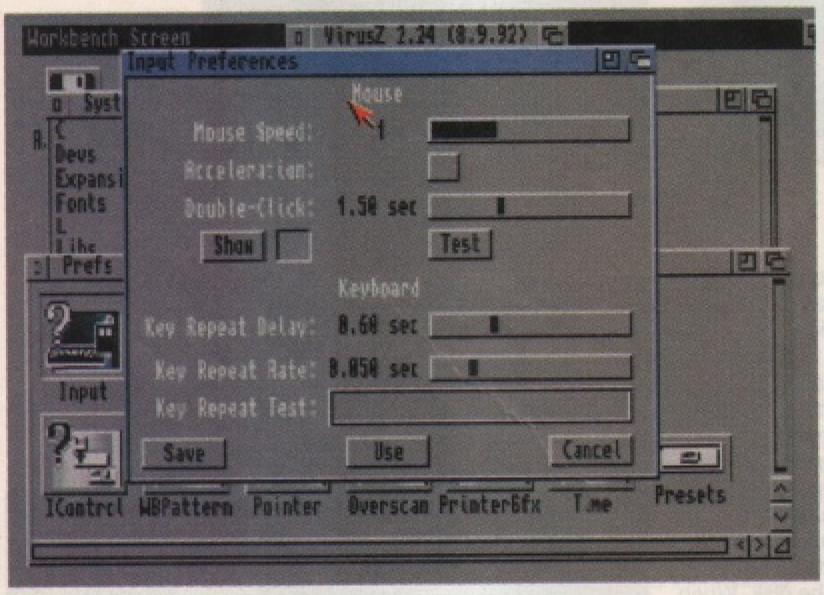
- Do store disks vertically upright
- Do keep them in a box or other container
- Do attempt to label them
- Do write-protect important disks, such as original software
- Do keep back-ups
- Do use reliable disks, branded ones often come with a guarantee
- Do use Double Sided, Double Density disks
- Do regularly check for viruses

- Don't rest coffee mugs on disks
- Don't scatter them around a disk
- Don't smoke 20 Bensons over them
- Don't use a disk which doesn't have a metal protective cover
- Don't leave them near a telephone, loudspeaker or other magnets
- Don't let them get too warm or too cold
- Don't eat them
- Don't send them back to me saying they don't work

WORKBENCH

The Amiga Workbench is where you will spend most of your non-game playing time so it's important to make it as pleasant as possible. In fact, some users think of it as a giant Adventure game in its own right, with hidden treasures to be found in the most obscure places.

Some of the preferences have more bearing on daily life than others.



Once you begin to get to grips with the Amiga, you will soon find that you prefer some options over others. The beauty of Workbench is that you adjust the system to be exactly the way you like it, and know that that's the way it will be every time you switch on.

Backdrop or Screen?

One of the first decisions you'll have to make is whether to make your Workbench a Screen or a Window. This is chosen from the Backdrop option in the first Workbench menu. It's purely a matter of taste – I like mine to be a screen to help avoid clutter. You may like having it as a window which you can then send to the back or pull to the front of any other windows. To make your choice stick, you'll have to load a tool from the Prefs drawer, change nothing, and then select 'Save'.
Note that if you chose to leave the Workbench as a window you can actually turn it off by clicking on the close gadget. This is useful occasionally, but remember that once you have closed it in this way there is no way of getting it back!

Startup drawer

On the Workbench disk, hard or floppy, is a drawer called 'WBStartup'. Anything you place into this drawer will be run on boot up. So, for example, if you wanted a clock to always appear on your screen without having to ask, simply drag its icon into the drawer.

This works with IconX script files as well, which is very handy for running assign scripts if you have a hard drive.

The startup drawer is a good place to put your virus checker as it will immediately become active and you won't have to worry about forgetting to start it. Also, some viruses can fool virus detecting programs if the virus is in memory before the virus checker is initialised. It makes sense to make this the first thing you run when you start up.

The Prefs Drawer

There are so many ways of altering the Workbench, that the control programs have all been split up and placed in one drawe – the Prefs drawer. In here you'll find programs for changing everything from the shape of the pointer, to the size of the Workbench screen.

All the preferences set in this drawer are saved to special files so that the Workbench will always be set up the way that you want it.There are a lot of preference programs, but the files they create are quite small so you can copy these onto any boot-up disk without having to have all the programs on as well.



Although it is possible to have lots of colours, remember that only a small number are used by the system itself.

Pointer

This is probably the easiest tool to use, and the hardest to get good results. The idea pointer is accurate, but not obtrusive. Everyone has their person favourite, and I reckon it's about time we had a competition to find the best.

WBPattern

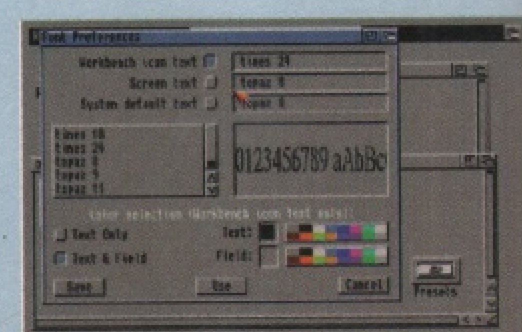
Ok, so it might seem trivial, but a nice relaxing backdrop can make all the difference. Try to avoid very busy backdrops or you'll get a splitting headache trying to read text. Both the Workbench and the Window patterns can be chosen separately to help you differentiate between them. Those of you lucky enough to be using Workbench 3 can actually use full-screen sized pictures.

This is a bit on the ridiculous side because there are very few pictures that you will actually be able to make out your disk icons over the top of. That said though, there is a certain amount of enjoyment to be had from copying disks on a remote carribean island populated only by… yes, well I'm sure you can see how easy it is to get carried away.

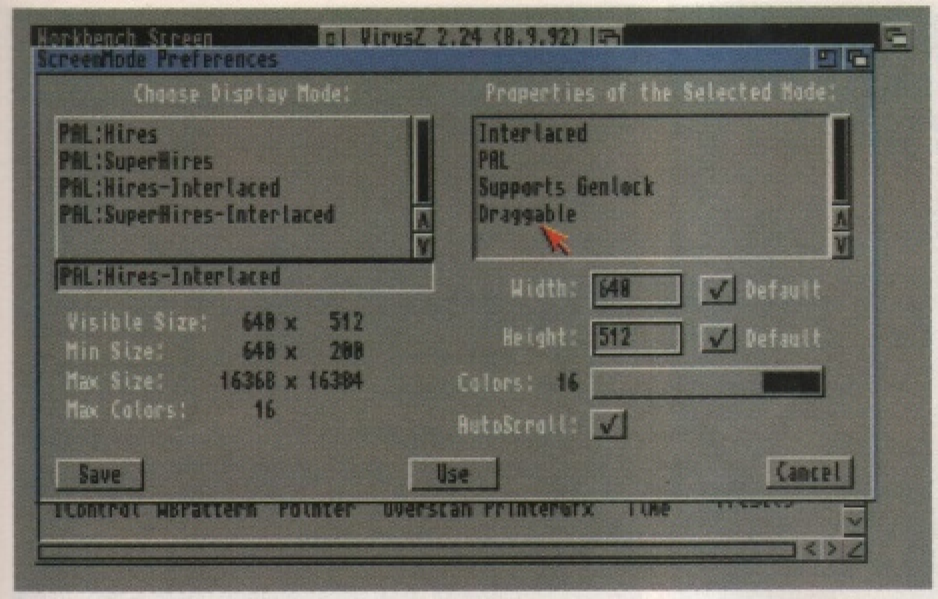
ScreenMode

This tool is easily the most powerful available. Not only can you define which sort of Workbench display you want, but you can also choose to have as many as 16 colours on the Workbench (which can get a little slow), or as little as 2 (which is boring). A little known fact is that you can also have Workbench sizes which are actually greater than the screen can display – when you move your pointer off the side, the screen scrolls to show the new parts. The Palette tool can be used to define any new colours you may have created, or to alter those already used. Workbench 3 owners can select up to 256 different colours – that should keep you busy.

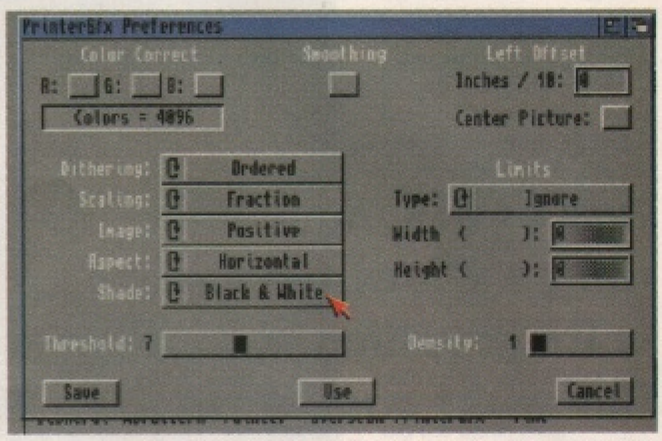
WORK



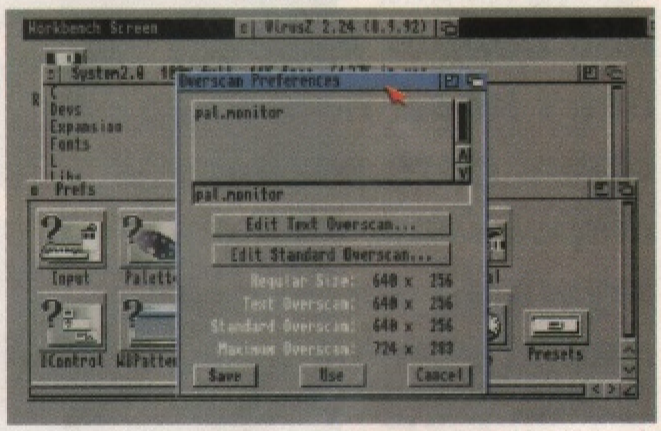
Fonts should be chosen with care, especially when fiddling with the default text.



Remember that more colours uses more memory when you start playing with the screen-mode



The graphics preferences you choose can seriously alter the quality of output from your chosen device.



Overscan options are important for video work.



You can make a real mess of the backdrop if you try hard enough.

Font

Once you start changing the screen size, you may find that the text is a bit difficult to read. No problem – use the font requestor to choose a larger size. Some application programs may have problems using the new font, so this may limit your choice to those which aren't too outlandish. The text that the icons are named with, the text used for Window titles and the CLI text can all be chosen separately. Remember the choice is to make your Workbench easier to use – not to make it look like a Letraset catalogue.

Overscan

If you hate to think of all that wasted screen which is used to form a border, you can cause the screen to 'overscan', and enlarge the Workbench area. The enlargement will depend on the television or monitor used.

Overscan is quite important if you are going to be using the Amiga for video work. Normally the Workbench screen doesn't get to the edges of the video image, so if you were recording an animation or trying some titling with a genlock you would be limited to the centre of the screen.

Fortunately the advanced video chip in the Amga allows you to increase the resolution of the Workbench screen to almost fill the entire video picture area.

Input

If you are having problems controlling the mouse, try altering the speed available from this tool. You can also choose whether or not to have acceleration active: this will make the pointer move faster the more you use it, and takes a bit of getting used to! Key repeat rates can also be fine-tuned here.

Parallel, Serial and PrinterGfx

If you add a printer to your system, you'll have to inform the Amiga what sort it is. If you can't find your particular printer listed, it's a relatively safe bet to start with the EpsonX driver first. If you are using a modem, you can alter buffer sizes and protocols with the Serial tool, although your Comms software might use its own defaults..

Making your changes permanent

All the tools in the Prefs drawer have 'use', 'save' or 'cancel' gadgets. If you select 'use', the new options will come into force, but nothing will be saved – the next time you boot Workbench everything will be back to normal. If you select 'save' the new preferences will come into force everytime you boot the computer from your normal Workbench disk.

All the tools also have a "Save as..." menu option. If you make use of this feature, you will be able to put together a collection of different preferences for different occasions. You may have a huge multi-coloured extravaganza to impress PC-owning friends, a 2-colour extra small Workbench for memory tight situations and a normal every day option.

With Workbench, the choice is yours!



The pointer is one of the first things to experiment with.

BENCH

Leaving icons out

Being able to take an Icon from its parent window and leave it on the Workbench is a very powerful way of customizing your system. All you need to do is highlight an Icon and select 'Leave Out' from the Icon menu. I have a paint program, a word processor and a comms program always on my Workbench, ready for immediate use. This feature works best when you have a hard drive, which will avoid any disk swapping on boot-up.

You can leave out icons on a normal disk too, it doesn't have to be a bootable disk. This is very useful on a floppy based system. If you leave out an application, and snapshot it then every time you put that disk in the drive the icon will appear on the Workbench – with no need for you to open the disk window.

GRAPHICS

One of the most amazing things about the Amiga is its graphic capability. But what good are all those colours, sprites and copper bars. if you don't know how to use them. Here we hope to dispel some of the mystique surrounding Amiga graphics.

If you bought your Amiga for its amazing graphics capabilities you'll not be disappointed. The basic Amiga 600 is capable of an astounding colour resolution of 4096 colours, with screen resolutions varying from 320x256 to 640x512 viewable on a standard TV or monitor.

To obtain these displays the Amiga uses a series of bitplanes to make up the images in memory. You don't need to know how this system works to be able to use an art package and draw wonderful pictures (or "interesting" pictures if you are artistically challenged), but a basic understanding is helpful in understanding why some things are simply not possible. So off we go:

What's a Bitplane then?

A bitplane is a term used to describe an area of memory set aside for the graphics display of the Amiga. Imagine it not as a continuous area of memory, but as a rectangular screen shaped block in your computer's chip RAM. Each binary "bit" of this area represents one pixel on the screen, and gives information on whether that pixel is to be turned on or off.

In two colour mode there is only one such "bitplane" of data, because there are only two possible combinations (either the bit is on, or it is off). For more colours further planes of memory are added, up to a total of six on the A600. Each further bitplane is mapped on top of the first, so they are all the same size, but now you have two or more bits of memory referring to the same screen location.

Two bitplanes gives a total of two bits of data for each pixel, which means there are four different combinations for each screen location. This translates to four possible colours. As you can see the number of colours goes up by a factor of two every time a new bitplane is added, up to a maximum of six, giving a total of 64 colours possible using this method.

It also means that the amount of memory used by the computer to display the image goes up arithmetically, in a screen sized chunk every time another bitplane is added.

For example, a 320x256 2-colour screen takes up a total of (320x256 bits = 10k), whereas a 32-colour image the same size would take up five times the amount of space (because it is five bitplanes of data) or 50k. This may seem a very small amount of memory compared to the gargantuan 1Mb available to you, but try imagining an animated sequence of 25 frames (which is only one seconds worth if run at a decent speed for proper animation) and you'll end up with a massive 1250k of memory – a good bit more than is available to the standard Amiga.

The size of the screen also effects the ability of the Amiga to animate it properly. If we are talking about 25 fps (frames per second) animation then you are asking the custom graphics chips to process that 1250k of information every second! Even a mono image animated at that speed would require 250k of memory. This is not outside the realms of possibility for a machine as powerful as the Amiga, but as we have seen, memory is in short supply. So what's the answer?



Eight bitplanes means 256colurs and, if you like, all those colours can be grey. The AGA chips do not suffer from the same palette restrictions when it comes to mono work as the old ECS chips. Not that many people can tell the difference mind you.



Top left: **A1200 owners will be able to display 260, 000 colours in HAM8 mode, leaving A600 owners with only 33 to play with (right). Dither modes (bottompictures) can enhance the graphics dramatically though.**

Compression

In order to maximise your value for memory the images are usually compressed in memory. There are various ways of doing this but essentially the technique involved is the same. Much of a picture is usually made up of large blocks of a single colour, so instead of remembering every single pixel of information the Amiga simply remembers the colour for the whole block and how big the block was.

It's a bit like a Pot Noodle really, all the useless watery stuff is taken out so you end up with something much lighter and more compact. In computer terms this means it takes up less memory and therefore is less time consuming to move about.

However, like the Pot Noodle, it also means that it takes a bit of time (to add the water again) before it can be used. This means that although you are saving memory or storage space, it takes slightly longer to retrieve the information. What you gain in effective use of space is taken away again by increased processor time.

Animations use a different approach from static images though. Working on the principle that each successive frame is only going to contain slight changes from the previous one, an animation file contains only the initial image and then a sequence of the bits that have changed (this is known as delta-shift encoding if you want to impress your friends). That is why animation files are stored in a different file format to ordinary pictures.

GRAPHICS



Hang on a bit...

At the beginning we said the standard Amiga could display 4096 different colours, but then we said that it could only use six bitplanes. Two to the power of six is only 64, so where do the extra colours come from.

Well, the 4096 colour mode is a bit of a cheat. It is known as Hold and Modify mode, or HAM for short, and that may give you an idea of how it works.

Instead of using the bits of data as discrete colour information, HAM mode uses these values as an offset from a base colour. It is slightly similar to the delta-shift technique used in animation files – instead of containing information about the whole colour, the data simply represents how much the present colour has changed from the previous one.

This does have its disadvantages. For a start it is not possible to use the HAM mode on anything other than a low resolution screen (320x256 pixels). It also means that colours blend into each other, sometimes with unsightly fringing effects (because the two adjacent colours are too different for the colour to change in one go). Another point to remember is that all this calculation takes up processor time (you can check this out by running a program like *DPaint* in Ham mode and checking how long it takes to redraw the screen after, say, a magnify operation).

On the whole, though, HAM mode gives exceptional results and the fringing problem rarely occurs in "realistic" images, like ones obtained from a scanner or digitiser.

The Alternative

The alternative to bitmap graphics is structured graphics. Instead of being built up of pixels, these are built up of mathematical lines and shapes. The advantage of this is that the pictures are not limited to a particular resolution. A circle is still a circle whatever size you choose to display it. Using conventional bitmap graphics shapes and text become distorted as you magnify them, but structured art retains its shape.

Of course, the objects still have to be rendered before they can be shown on the screen, which makes them a little slower than bitmapped packages, but a lot more flexible when it comes to design work. There are a number of structured art packages available for the Amiga, from *Expert Draw* to *Professional Draw*, they all operate on these principals.



Things to get

There is probably more graphics software on the Amiga than any other type of application. Here is a brief list of the programs to look out for

DELUXE PAINT IV :
Deluxe Paint has always been the standard graphics package for the Amiga. *DPaint III* is still available and is given away in some Amiga packs, but the true potential of the Amiga is not explored unless you have *DPaint IV*.
As well as enhancements such as light tables, extended fill operations and a rudimentary morphing feature, this version is the first in the series that allows you to manipulate HAM images with a 4096 colour palette. The animation section also allows full screen animation of HAM images.

DELUXE PAINT IV AGA
This is the latest version of *Deluxe Paint* and is more or less identical to the version above except that it has enhancements to cater for the AGA chipset found in both the Amiga 1200 and the A4000. This version is of no use to you unless you have either of these machines. If you do, you will now be able to use all eight bitplanes, giving 256 colour images, and the new HAM* mode, giving a total of 262,000.

PROFESSIONAL DRAW 3.
This is a structured art package which enables the construction, display and printing of object oriented artwork, as described in the main text. *Professional Draw* is the fastest and easiest to use structured art package for the Amiga, with more features than any other. With macro links to the *Professional Page* DTP system, and user definable ARexx macros this software is the most professional you can find.



BETTER PICTURES

Just because the Amiga as it stands cannot display 24-bit graphics, like machines which are used in professional graphics applications such as TV work do, it does not mean that you cannot create them. In fact there are several packages on the Amiga, such as ASDG's *Art Department Professional*, which are designed specifically to handle 24-bit images. These can still be used for DTP or video work if you are using a bureau to produce the finished article.

Some 24-bit adaptors are available for the Amiga which enable it to display these images directly – though these can be beyond the price range of most people.

SEIKOSHA

- DOT MATRIX
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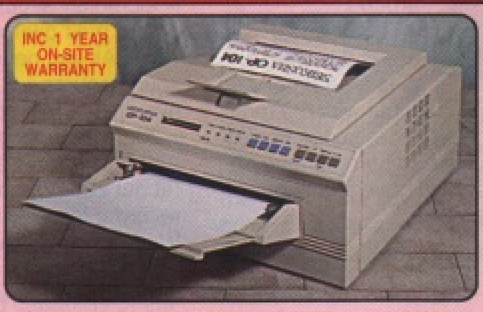
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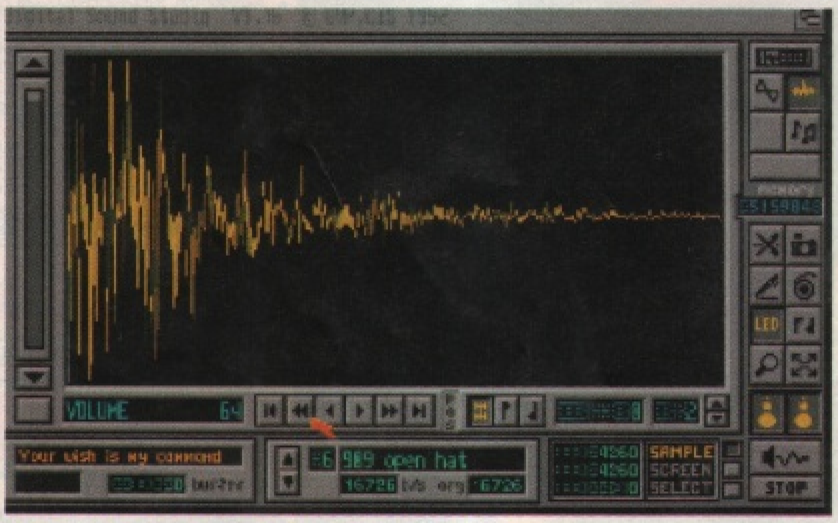
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SOUND

If you did any research before you decided to get an Amiga, then you must have heard hundreds of fantastic music demos on the Amiga, and wondered how it was done. Now read on...



Dedicated sampling software has become very sophisticated on the Amiga.



The Amiga's sound capabilities may not have improved in the last seven years, but that doesn't prevent it from still being one of the most advanced home computers when it comes to sound. Only recently has this power on a home computer been overtaken by a new rival, the Atari Falcon – but if you consider the respective prices of the machines, you've still got a bargain.

More about Paula

The fundamental thinking behind sound generation on the Amiga is a quantum leap from the old style sound generation chips on home computers. In the old days (or the present day if you still have an ST) sound worked on modulating the signal from a waveform generator. This was all very well if you wanted to simulate transformer hum or pure notes, but it was next to impossible to generate anything that sounded like it might have originated in the real world.

Paula is quite cunning. Instead of generating a waveform, the Paula chip just replays digital data, very much like a CD player. In effect it's a sampler in reverse. Instead of converting analogue waveforms into digital data, it goes the other way around.

The downside of this is that the samples tend to take up a rather large amount of space, but with the modern home computer you have more space to play around with. Unless you were to try recording an entire album track, you should have plenty of memory for quite long samples.

The going rate

In order to save some space the samples need not be played back at the fastest rate. The Amiga is capable of playing samples back at around the same speeds as a CD player, but often this is just wasteful. A lot of sounds can be played back at half the rate with no real difference.

Halving the rate means half as many sample points, so you either halve the amount of space the sample takes up, or you could double the length of the sample.

Paula actually has a pair of stereo channels, all of which can replay sound samples simultaneously. Musicians and musical engineers may be horrified at the thought of the lack of stereo imaging (i.e. each sample coming out of only one speaker) but you can use stereo samples as well (although these obviously take up two of the channels, one on each side). Most people won't be able to tell the difference if they are using a TV (where the sound is mixed into mono) or a stereo monitor (where the speakers are so close together you wouldn't notice the spacing unless your face was against the screen).

Sampling

Because the Amiga simply replays samples it is incredibly simple for the home user to record their own without any specialist knowledge. All you need is a sampler and a suitable sound source – a tape recorder, CD player or even just a microphone.

Many sampling packages exist for the Amiga, and they are not very expensive at all (about £30-40) so even if you just want to record a few silly noises to liven up Workbench you have no excuse.

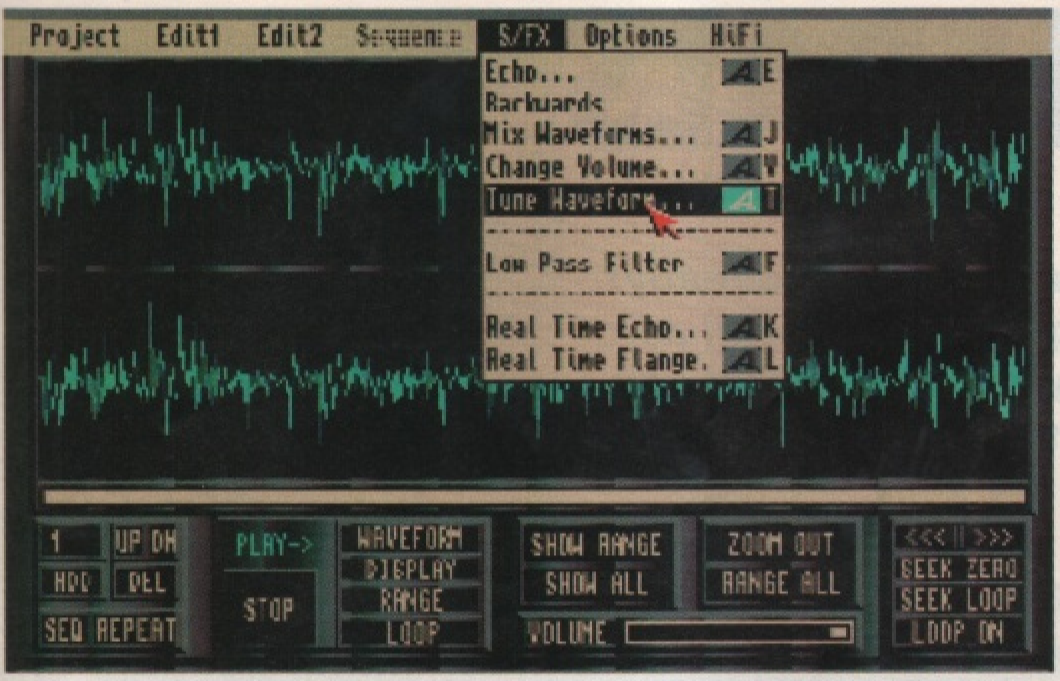
There is even a whole range of sample CDs around, which are designed specifically to be used by sampling packages (okay, they are intended for use with professional sampling equipment, but that doesn't stop you from using them). The content of these discs vary from sound effects to classical instruments.

Another advantage to having a variable rate sound chip is that you don't necessarily have to play the sample back at the same rate as you sampled it at. This means you can effectively (if not scientifically) alter the pitch and play a whole scale with just the one sample. If you sampled a trumpet for example, you would only need one sample to play a very effective solo.

SOUNDS

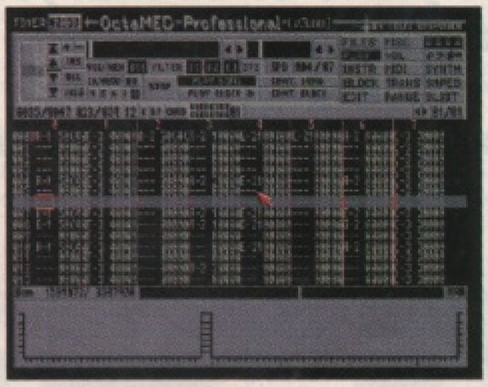


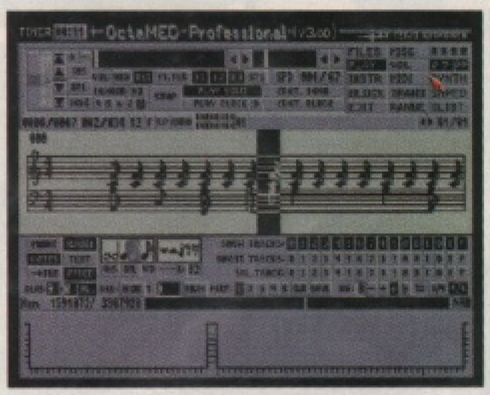
Various processing effects are possible with most software.

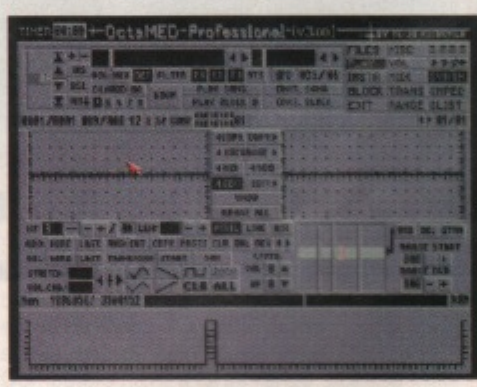


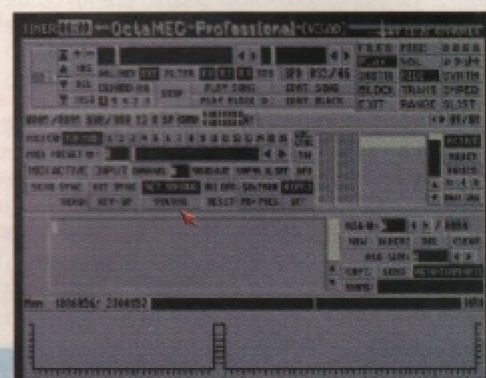
Audiomaster has the best range of processing effects, some of which can operate in real-time.

OctaMED is probably the most famous, and certainly the most flexible, *Soundtracker*-style program available. It was given away with CU Amiga in July.









View from a bridge

You can of course take this a whole step further and compose entire tunes out of your samples. Because these are stored as a list of sequences of different samples, it is possible to construct very large tunes instead, as all of us here at CU know only too well when once again the strains of breakbeats and "my mummy says..." drift from Tony Horgan's magical music cupboard.

There is a lot of commercial software available that will let you do this simply and effectively, but the established tradition is to use one of the 'Soundtracker' clones. These are music compositors for the non-musician, where tunes are put together rather in the manner that programmers would have music written. This works out quite well because it makes it very easy to include the tunes in any programs you happen to write.

MIDI

There is a way to use your machine for helping record music professionally. This doesn't have very much to do with the sound capability of the Amiga though, but it does entail using your machine as an intelligent conductor of other musical instruments.

There is a standard amongst the manufacturers of electronic instruments which has been designed to help join a whole load of instruments together. This standard is called MIDI and consists mainly of a sort of serial network. All the instruments are connected together by their MIDI ports and can thus synchronise their playing to a common time signal.

In order for this to work effectively you need a machine which sends out the data telling the instruments what notes to play and when to play them. This is usually the job of a dedicated sequencer, but there are certain advantages to using a proper computer for the job. This is where the Amiga comes in. Equipped with a MIDI interface, it can direct the playing of more musical instruments than you could comfortably fit in your front room.

Because you are using a computer you can easily compose all your songs (with the relevant software) and simply save them to disk, for a performance anywhere. It worked for New Order anyway...

The ST used to be the musicians first choice when it came to a home computer, mainly because it has built in MIDI ports (you have to buy them separately for the Amiga) but this has changed recently as the software on the Amiga has improved dramatically. *KCS*, produced by Dr. T (the best music software company, who program for a large number of machines) is, at the moment, most advanced in the Amiga version – so much so that top artists like Madonna have used it whilst producing albums.

Better than life

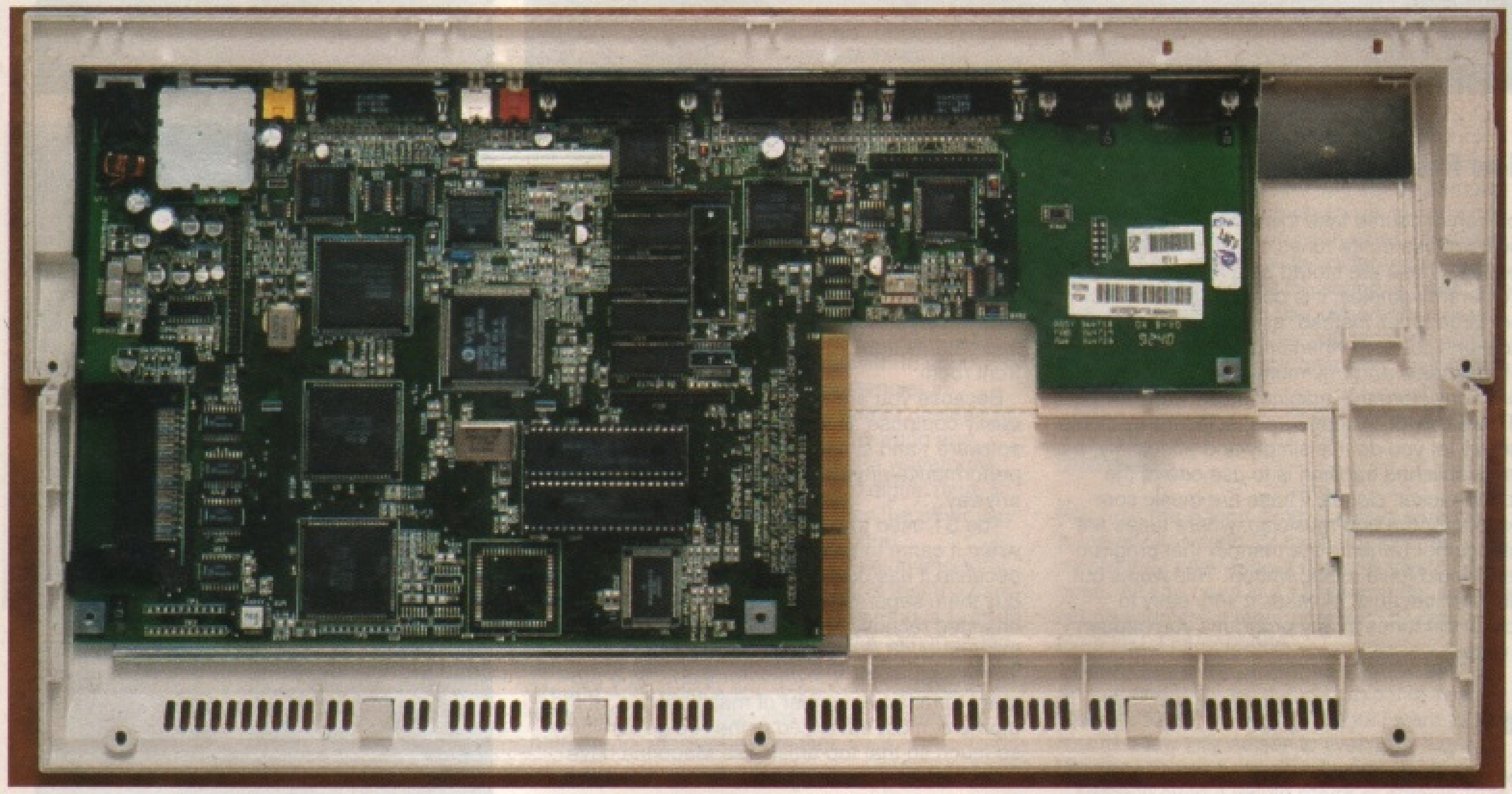
Just because the Amiga doesn't come with CD quality sound doesn't mean that you can't produce it. There are now a number of 16-bit sampling cards available for the Amiga with facilities for direct to disk sampling. Effectively this means that you can digitally master an entire album on the Amiga (provided you have a big enough hard disk, about 600Mb would do). Having all the data on disks means it can just be sent away to a CD mastering factory and reproduced – a true DDD recording, which is more than a lot of artists can manage at the moment.



Song playing modules can replay tunes without the overheads of a compositor package.

PERIPHERALS

So you're bored with your new Amiga already? If your beige beast isn't quite as powerful as you'd hoped, we'll show you exactly what you need to make the machine of your dreams.



There is a lot inside an Amiga , but there could be a lot outside it too if you want to spend the cash.

Nothing is perfect, even an Amiga straight out of the box. Through cost and market restrictions Commodore have to make compromises. Thankfully, the next generation of the Amiga has improved the situation somewhat, but for most of us some extra expenditure is needed to create a useful system (or at least one that you can use without going irrevocably, totally, barking, raving mad, or as we should say, rationally challenged).

External disk drive

Before you go completely mad watching "Please insert disk Workbench for the umpteenth time" messages appear on-screen, an external floppy drive should arguably be your very first foray into the world of Amiga peripherals.

Thankfully, this needn't be a stressful, or even a very expensive business — drives are available from most dealers and hundreds of mail order companies.

Prices start at £50 for a "Prima Addup" from First Computer Centre, and just keep on going. Don't pay more than £70 for a single drive, or you are being done.

With two drives available to your Amiga the disk-swapping messages will be reduced dramatically. The only drawback is that the extra drive takes up some of your precious memory, so that's next on the list.

PERIPHERALS



A hard drive is useful, nay, essential if you don't wish to be driven insane by constant disk-swapping.

Control Centres

A control centre is the computer equivalent of the extra skirting people buy for their Ford Escorts to make them look fast and sleek like Rally cars. If you have a Ford Escort, Captain Diamond can make your day for only £35. He claims it will transform your Amiga into "the ultimate hi-tech integrated workstation environment", and who am I to argue?

Books

No matter how much you think you know, someone will always write a book to tell you otherwise. The Amiga has a large number of books written for it, some by people who, believe me, know less than you do. The manuals which come with all new Amigas are particularly well written, and it's only when you get into slightly more specialist areas such as programming that books are worth worrying about.

The exception to this rule is probably AmigaDOS, the name given to the various commands you can type into the Shell. The best books in this area are published by Bruce Smith Books, and given such snappy titles as 'Mastering AmigaDOS volume 1' and 'Mastering AmigaDOS volume 2'.

INPUT DEVICES

Getting information into the computer has to be as easy as possible. Here we look at ways of improving the situation.

Joystick

If you want to play games, a joystick is a mus – a fact which is so taken for granted that it sometimes doesn't appear on the game's box! Playing a game with a mouse can be too frustrating to be worthwhile.

The range of joysticks for the Amiga is staggering – you can even buy them in the shape of Bart Simpson if you really want to. So much is down to personal choice that you really need to try before you buy. I like the Konix Navigator style, some can't stand it and yearn for something more subtly masculine in appearance. Dynamite Computers have a large range, starting from £3.50 for the classic Quickshot to £20 for a steel shaft Quickjoy Megastar. They'll also supply the Cheetah Characterstick in several different guises for £9.

Mice

The mice supplied with the Amiga don't seem to stand up to well to the test of time. Some people simply don't like them from the offset. Well, it's a free world and replacement mice are easy to come across. Naksha have an excellent reputation, and for £25 FX Direct will send you a replacement rodent.

Trackballs

Just to be different, you might like to consider a trackball instead of a mouse. They plug in to any Amiga in exactly the same way as a mouse, but don't slip and take a lot less space. If you can donate a day or two to getting the hang of them, you might find that you prefer them. Evesham Micros will sell you one for £30.

MISC

Next up we have all those things that you really need, but never seem to have. By the way, it makes an ideal list for those buying presents for Amiga owners!

Blank disks & labels

Basically, you can never have enough blank disks. Some of the more famous Sod's Law of disks state:

1. You are always one disk short at any one time.
2. If you do only have one disk left, it will be faulty.
3. When formatting a disk, it will only fail at the last possible moment.

And so on. Get out there, buy the best branded disks you can and REMEMBER TO WRITE ON THE LABELS!

Mouse mat

Magazines are too slippy, trousers are too fluffy and the cat won't stay still long enough. You need a mouse mat. For some reason, 90% of mouse mats are blue. If you spend more than £5 on one, you are a very silly individual. FutureTech do one at £3.50, which is close to the limit. You can even get official CU AMIGA mouse mats, for the more discerning. What better present for a birthday, what better expression of sentiment, what greater testament to friendship (and more shameless plugging)…

Dust cover

As an unfeasible percentage of household dust is composed of human skin, don't you think a dust cover is a good idea? Unless you want your mother to vacuum up the keys off your keyboard, I'd recommend one. If you are a person with strange tastes, you can buy a device called a Seal'n'Type which encases your keyboard in a thin film of plastic.

TECHIEWARE

Now we're talking! If you really want to get into computing with the Amiga, you'll need to add some of these items to your shopping list. And while you're at it, get us some too...

Hard drive
Almost essential for serious and even semi-serious use, a hard drive will radically alter the way you use your Amiga. If you are buying an A600/A1200 make sure you spend extra and get a hard drive.

For the rest of us the choice is bewildering. SCSI or IDE? External or hard card? Through port? Expansion RAM? Built in accelerator? Rated amongst the best for the A500 is the GVP HD+, which is also available in accelerated form. Prices start at about the £300 mark, so shop around from any of the dealers mentioned for the best deal. Back issues of CU Amiga carry reviews of practically all the drives available.

Accelerators
If your new computer isn't fast enough for you, you need an accelerator. They plug in and go, speeding up operations by as much as you are willing to spend. The best budget boards come from SSL, available from many dealers. Prices are as low as 150, so keep a look out.

Emulators
So you've bought an Amiga, but realised what you really wanted was a PC. You're in luck, for you have several ways of getting that all-important user-unfriendliness up and running on the Amiga. KCS and Vortex both produce boards which slot in to various places, and can run any PC software you want.

Modems
The best way to get information. Starting at £70, a modem will connect you to the rest of the World. Free software, friendly chats and hot gossip are all available from your local bulletin board. Check out the regular Comms column in CU Amiga every month.

Printers
By adding a cheap 9-pin printer to your computer, you have made it more useful by a factor of at least 100%. Now you can word process, and throw that bottle of correction fluid away. Silica Systems sell printers starting at a little over £100. Think seriously about getting one – you won't regret it.

VIDEO

The quality of the Amiga's graphics has always been its trump card. Ideal for anything from 3D Image rendering to home video titling, every Amiga has amazing possibilities.

Monitor
A dedicated monitor makes so much difference to an Amiga that some say they should be compulsory. Suddenly text is rock-steady and clear, colours are bright and there are no longer any fights when Home and Away comes on.

The standard monitor is the Philips 8833, which also appears under various other guises.

It is perfect for everything from games playing to word processing, and costs less than £200. If you value your eyesight and want to restore calm to family life, consider telephoning an order to Silica Systems.

Genlock
You can buy a Genlock for as little as £65 from Gordon Harwood Computers, and here's why. Recording titles onto video tape is all very well, but overlaying them on live footage is something else.

Now you can subtitle drunk relatives speeches at weddings, draw false beards on newsreaders and perhaps even make some extra pocket money producing semi-professional videos.

Video digitisers/Image scanners
Capturing images from external sources opens up all sorts of possibilities. With Rombo's VIDI12 (available from HB Marketing) you can grab full-colour images from video and then load them into *Deluxe Paint* for butchering. A hand scanner from Hobbyte will grab your pictures in a format ideal for Desktop Publishing. You're looking good!

SOUND

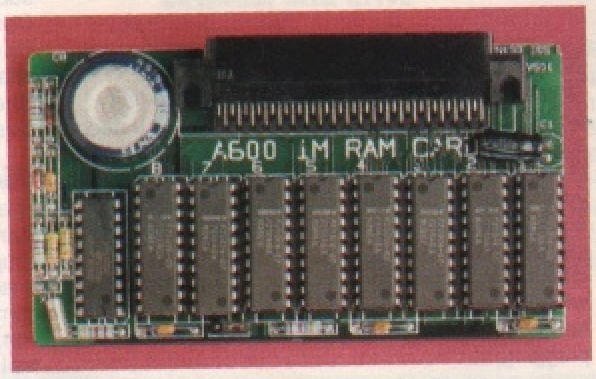
The Amiga supplies four channels of 8-bit sampled sound as standard, which until fairly recently was considered the bee's knees. These days the public demands a little bit more, and as ever, we deliver.

Sound samplers
In order to capture your own sounds, you will need a sampler. Prices for samplers vary according to features, but the GVP Sound Sampler at £50 from Silica Systems is rated very highly. Cheaper mono samplers are available, and nearly all come complete with the software needed to drive them.

Sound enhancers
When sounds are played back by the Amiga hardware, they must first pass through some electronic filters to try and improve the quality. The simple filter built into the Amiga can be improved upon, and two such devices are available. They are the Omega Projects sound booster (from Special Reserve) and the Pyramid sound enhancer (from Genloc Ltd.).

MIDI interface & software
A design flaw on behalf of Commodore means that the standard Amiga does not come with a MIDI interface as standard. For £20, MJC Computer Supplies can rectify this fault, with an excellent little unit which plugs into the serial port. With a copy of a sequencing program, for example the quirky but excellent *Music-X*, you can compose your own tunes with the aid of musical instruments ranging from the cheapest of compatible home keyboards to the most expensive of professional synthesisers. Recommended.

Memory expansion



If you have a A500 or A600, you're in luck as giving your system a quick memory boost is cheap, quick and almost impossible to do wrong. Adding an extra 512K or 1Mb is the surest way to cut down on those nasty 'Software Failure' messages which seem to crop up at the most inconvenient times.

Shop around before you buy, but Reflex will update your A500 to 1Mb for £15, Phoenix will give your A500+ a total of 2Mb for £35, and for £33 Futuretech will populate your A600 to 2Mb. Memory has never been so cheap!

If you want more memory than this (greedy!), you'll need to explore other avenues. A600 owners will need to make use of that credit card slot on the side of their machines, A500 owners will need a box of tricks to plop onto the side. Prices are higher here, so keep a regular check on the advertisements in CU Amiga. As an example, Evesham Micros will provide A500 owners with 4Mb of extra RAM (expandable to 8Mb) for £160.

Owners of the shiny new A1200 can use their credit card slot, or more sensibly will wait for a week or two as the manufactures race to discover what exactly can be done with the various interfaces.

Owners of the 'big box' machines (A1500/2000/3000/4000) have many third party cards available, and companies such as Reflex can offer advice on how to spend your money.

That brings us to the end of the essential upgrades, what follows are the optional extras which tailors your machine to your exact needs. We can't mention everything is this small space, so make sure you keep reading the reviews in CU Amiga every month for the latest news.

Contacts

First Computer Centre 0532 319444
Reflex 051 708 5588
Phoenix 0532 311932
Futuretech 0908 211665
Diamond 071 580 4259
Bruce Smith Books 0923 894355
Dynamite Computers 0234 214212
FX Direct 0296 688222
Evesham Micros 0386 765500
Special Reserve 0279 600204
Genloc Ltd. 0257 472887
Silica Systems 081 309 1111
Hobbyte 0582 457195
HB Marketing 0753 686000
Meridian 081 543 3500

AMIGA PERIPHERALS

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GREAT VALLEY PRODUCTS

QUALITY AMIGA PERIPHERALS WITH A 2 YEAR WARRANTY

Silica Systems are pleased to present the GVP range of peripherals. GVP are the world's largest third party manufacturer of peripherals for the Amiga range and have a reputation for high specification, quality products. The company was founded only four years ago by a man who knows about the Amiga, Commodore's ex-Vice President of Technology. He, along with a team of Amiga experts including other ex-Commodore staff, understand the add-on requirements of Amiga owners better than anyone. Not only do GVP provide peripherals that Amiga owners want, they also offer peace of mind, with a 2 year warranty on the products they manufacture. So, if you are looking for the very best in peripherals for your Amiga computer, look no further than GVP.

FREE BROCHURE
RETURN THE COUPON FOR YOUR COPY

GVP's HD8+ hard drive and A530 hard drive with 40MHz accelerator, represent the highest quality Amiga 500 peripherals, at very affordable prices. Each incorporates a fast action hard drive, RAM expansion capability, custom VLSI chip and FaaaSTROM SCSI driver, for unbeatable performance.

The HD8+ hard drive offers up to 8Mb of standard internal Fast RAM expansion and the A530 Combo, up to 8Mb of 32-bit wide fast RAM expansion. Both feature a SCSI controller, which supports up to 6 additional devices, and an Autoboot/Game cut-off switch. Both are available in 80, 120 and 213Mb hard drive versions.

In addition, the A530 Combo zooms the Amiga forward with an 030 accelerator, running at a blistering 40MHz. This enables your Amiga 500 to run at an incredible 12.1 MIPS, faster than an Amiga 3000! No other product in the world combines all the features found in the A530 Combo! A plug-in PC emulator option, shown below, is available for the HD8+ and A530 Combo.

NOW IN STOCK!
40Mb HARD DRIVE ONLY £349





AMIGA GOLD FORMAT

	HD8+	A530
HARD DRIVE		
SCSI HARD DRIVE 40, 80, 120 & 213Mb VERSIONS	•	•
ULTRA FAST ACCESS	•	•
TRANSFER RATE UP TO 2,100K/sec* (*THE RATE OF THE 213Mb HD)	•	•
ACCELERATOR		
40MHz 68030EC CPU		•
OPTIONAL 68882 MATHS CO-PROCESSOR		•
RUNS AT 12.1 MIPS (FASTER THAN AN A3000!)		•
HARDWARE SUPPORT TO MAP KICKSTART INTO 32-bit WIDE FAST RAM FOR FASTER OPERATION (LIKE CACHING THE OPERATING SYSTEM)		•
RAM BOARD		
UP TO 8Mb OF 8 OR 9-bit FAST RAM (8 OR 9-bit WIDE SIMMS - 120ns OR QUICKER)	•	
UP TO 8Mb OF 32-bit WIDE FAST RAM (32-bit WIDE SIMMs - 60ns)		•
1Mb POPULATED		•
OTHER FEATURES		
HDD/ACCELERATOR 'CUT-OFF' SWITCH FOR 100% GAME COMPATIBILITY	•	•
SCSI CONTROLLER FOR UP TO 6 ADDITIONAL DEVICES	•	•
VLSI CUSTOM CHIP	•	•
FAAAST ROM SCSI DRIVER	•	•
IDENTICAL COLOUR & STYLING TO THE A500	•	•
BUILT-IN VENTILATION FAN TO PREVENT THE UNIT FROM OVERHEATING	•	•
DEDICATED POWER SUPPLY	•	•
'MINI-SLOT' FOR FUTURE EXPANSIONS (E.G. PC EMULATOR)	•	•
REMOVABLE MEDIA SUPPORT	•	•
DIRECT MEMORY ACCESS (DMA) STYLE FOR ULTIMATE PERFORMANCE	•	•
EASY-TO-USE SOFTWARE	•	•
2 YEAR WARRANTY	•	•

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'Superb build, excellent aesthetics and blinding speed make this the best A500 hard drive' ...
AMIGA SHOPPER (HD8+)

'GVP claims this is the fastest hard drive in the world and none of our tests could prove that wrong ... Untouchable. THE choice'
AMIGA SHOPPER (HD8+)

'Still the best hard drive'... 92%
AMIGA FORMAT 11/91 (HD8+)

'GVP have done it again!'... 94%
AMIGA FORMAT 9/92 (A530)

'... the build quality is excellent ... in terms of performance, their gear is the best ... their equipment is worth every penny'.
AMIGA FORMAT 9/92 (A530)

HARD DRIVES & ACCELERATORS

PRICES FROM:
£349

MODEL	40Mb	80Mb	120Mb	213Mb
HARD DRIVE HD8+	£349 Ref: HAR 0640	£449 Ref: HAR 0888	£529 Ref: HAR 0922	£699 Ref: HAR 0933
A530 COMBO HARD DRIVE & ACCELERATOR	–	£849 Ref: HAR 0968	£929 Ref: HAR 0974	£1099 Ref: HAR 0983

PC EMULATOR

PLUG-IN OPTION FOR HD8+ & A530



- 16MHz 80286 processor
- 287 Maths Co-Processor socket
- 512K of PC RAM plus the use of Amiga RAM
- Supports Hercules, CGA, EGA/VGA (monochrome) and T3100 video modes
- Runs MS-DOS (3.2 and upwards) plus thousands of other PC programs

This powerful 286 emulator module simply plugs into the "mini-slot" of the GVP HD8+ or A530 (without invalidating the warranty). It has full access to the Amiga's resources and allows you to run PC and Amiga programs at the same time, giving you two computers in one.

£149 Ref: EMU 0500

FOR ALL AMIGAS



SOUND SAMPLER

- 8-bit stereo sampler
- Plugs into parallel port
- MIDI support for song input
- Extensive editing features

For the semi-professional and audio hobbyist a high quality 8-bit stereo sound sampler that connects into the parallel port on any Amiga 500, 600, 1500, 2000 or 3000 computer. Combined with one of the latest, most powerful and easy-to-use sound and music editing programs available. Includes 4-track soundtracker file compatible sequencer.

MUS 2500 **£49.95**

NEW!



VIDEO GENLOCK

- 2x Composite Video, 1x S-VHS inputs
- RGB Composite video & S-VHS outputs available simultaneously
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- Full software control via control panel, hotkeys and/or ARexx

GVP's G-lock genlock is a true price/performance breakthrough. The G-lock genlock works with all Amiga computers and even supports the new Chroma Key modes of the ECS/AA chip set. It is the only choice for the mid-range Amiga video enthusiast.

VID 2500 **£349**

AMIGA 1500 + 2000 + 3000 PRODUCTS

ACCELERATORS

	030 25MHz	030 40MHz	030 50MHz	NEW! 040 33MHz
Processor	68030EC	68030EC	68030	68040
Speed MIPS	7.48	12.1	15	30
Speed MHz	25	40	50	33
Math co-proc	68882	68882	68882	Built-in
Standard 32-bit RAM	1Mb	4Mb	4Mb	4Mb
Maximum 32-bit RAM	13Mb	16Mb	16Mb	16Mb
Extras	SCSI	SCSI	SCSI	SCSI Ser/Par
Code	UPG 0118	UPG 0430	UPG 0533	UPG 0740
PRICE	£599	£849	£1199	£1499

All GVP G-Force accelerators can be turned into a hard card by adding a Mount Kit, GVA 4251, £39.95, making it the ULTIMATE Amiga 1500/2000 peripheral. Any 1" SCSI drive can then be mounted on to the accelerator.

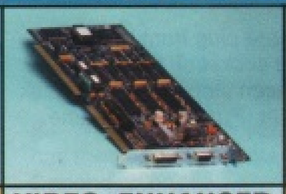


HARD CARDS

- Factory installed Hard Drives
- 0, 80, 120, 213, & 420Mb options
- On-board 8Mb memory sockets
- Add up to 6 SCSI devices

The Impact II HC8 hard cards are the equivalent of the HD8+ hard drive, but for the 1500 and 2000 models. They are some of the fastest hard drives available, and incorporate an unpopulated 8Mb RAM expansion.

0Mb	Ref: HAR 1300	£129
120Mb	Ref: HAR 1422	£449
213Mb	Ref: HAR 1533	£699



VIDEO ENHANCER

- 16 million colours @ 768 x 580 PAL Res
- Supports comp video, S-VHS & RGB
- Broadcast quality genlock
- Now with RGB splitter

Impact Vision 24 is the latest 24-bit Professional Video Adaptor. It features 16 million colours on screen at once, built-in genlock, flicker fixer, frame buffer, frame grabber and digital keyer. Supplied with Caligari-IV24 3D modelling and rendering software, Scala IV24 video titling software, plus Macro Paint 24-bit paint package. A1500/2000 requires additional adaptor, GVA 5224, £49.95

IV-24 - VIU SPLITTER Ref: VID 7024 **£1499**
IV-24 - VIU TRANSCODER Ref: VID 7124 **£1899**



RAM BOARDS

- Up to 8Mb of FAST RAM
- Upgrade in 2Mb increments
- Supports industry standard RAM chips
- Diagnostic software included
- Fully auto-configuring

The RAM-8 offers an easy way to upgrade your 1500 or 2000 in 2Mb increments up to 8Mb. The RAM 8 is fully auto-configuring and is supplied with peace-of-mind diagnostic software. 6Mb configuration supported for bridgeboard owners

0Mb populated RAM 2800 **£99**
2Mb populated RAM 2802 **£149**

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- *FREE CATALOGUES:* Will be mailed to you with offers + software and peripheral details.
- *PAYMENT:* Major credit cards, cash, cheque or monthly terms.

Before you decide when to buy your new Amiga products, we suggest you think very carefully about WHERE you buy them. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, with our unrivalled experience and expertise, we can now claim to meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Systems Service".

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LONDON SHOP: Opening Hours: Mon-Sat 9.30am-6.00pm	52 Tottenham Court Road, London, W1P 0BA. No Late Night Opening	Tel: 071-580 4000 Fax No: 071-323 4737
LONDON SHOP: Opening Hours: Mon-Fri 9.30am-7.00pm (Sat close 6.30pm)	Selfridges (1st Floor), Oxford Street, London, W1A 1AB. Late Night: Thursday - 8pm	Tel: 071-629 1234 Extension: 3914
SIDCUP SHOP: Opening Hours: Mon-Sat 9.00am-5.30pm	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX. Late Night: Friday - 7pm	Tel: 081-302 8811 Fax No: 081-309 0017
ESSEX SHOP: Opening Hours: Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm)	Keddies (2nd Floor), High Street, Southend-on-Sea, Essex, SS1 1LA. No Late Night Opening	Tel: 0702 462426 Fax No: 0702 462363

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Company Name (if applicable): ....

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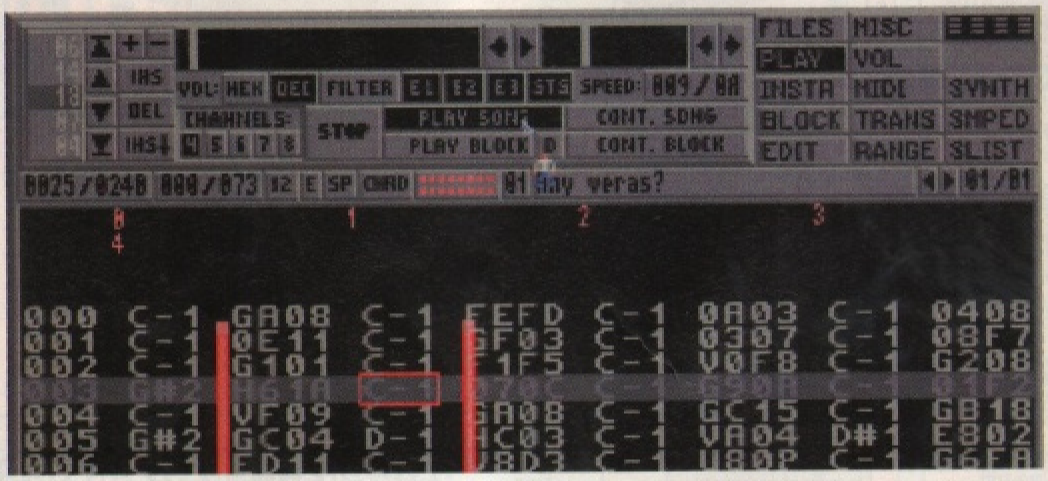
Tel (Home): .... Tel (Work): ....

Which computer(s), if any, do you own? 68G

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

QUESTIONS & ANSWERS

Not everything goes according to plan. Not everything is right first time, every time. But fear not. Even the most magnificent of experts had to start somewhere, and how well we remember those first setbacks. Therefore we have cunningly compiled an extensive list of some common problems and their oh-so-obvious solutions.



Disks drives

Q. The disk drive doesn't seem to work properly. What's up?

A. Occasionally the square plug from the power supply doesn't fit into the socket on the Amiga as snugly as it should. This can stop the internal disk drive from receiving power. Push it firmly home.

Q. Why won't my hard drive auto boot.

A. Most hard drives will give priority to floppy drives. Check to see there isn't a disk in one of your external drives.

Q. My floppy disks become corrupt quite often.

A. Look carefully at the way you treat the disks. Do you pile them on or near sources of strong magnetic fields such as loud speakers, televisions or power supplies? Do you store them in dust free environments? Do you smoke whilst using your computer? Particles of cigarette ash can damage the surfaces. Ensure that you always wait for the drive light to go out before removing disks from the computer.

Q. What does 'Write Protected' mean?

A. Floppy disks have small tabs in the corner. When in the open position (i.e. you can see through them), it is impossible for the Amiga to store information on them: they are Write Protected.

Q. There isn't room on my disks to store enough information!

A. You can 'archive' files to save space. If you don't need immediate access to them, for example the files are old documents or pictures, use a program such as LHA, ARC or ZOO to squash them in size. If you want to squeeze programs – such as *Deluxe Paint* – a program such as *PowerPacker* is better, as it automatically uncompresses programs. Ask your PD library for more details.

Miscellaneous

Q. Why does my mouse keep slipping?

A. It's ball is dirty. All mice can have their ball removed for cleaning. While you have it apart, check the roller mechanisms for fluff. If necessary, disconnect the mouse from the computer and remove the fluff with a darning needle or hat pin.

Q. When someone switches the kettle on in the kitchen, my Amiga crashes.

A. You need a 'surge protector'. You can buy them as single plugs, or built in to a 4-way gang. Think about getting one anyway, and then you can switch on your computer, monitor and printer all at once.

Q. My disk drive remains on, even after a program has loaded.

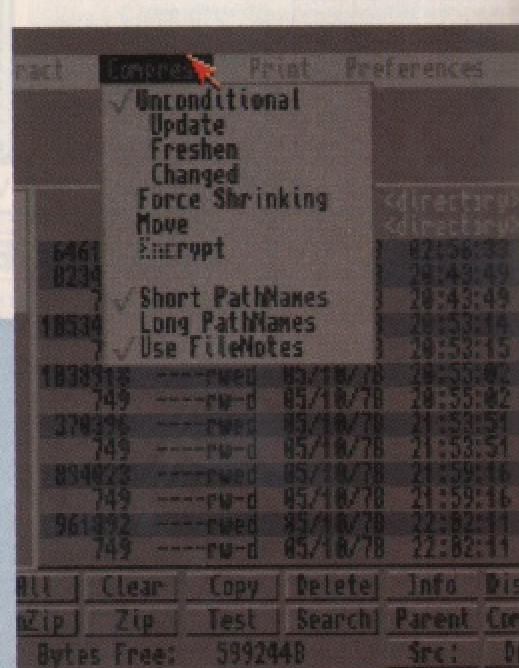
A. Sounds like one of the internal chips – a CIA chip to be exact – has broken. This is a common complaint, especially amongst those who like to connect and disconnect peripherals to the serial and parallel ports without switching the Amiga off first.

Q. Something strange seems to be happening... Help!!!

A. Stop holding your breath for so long, it's bad for you. Alternatively, it could be that your system has become infected with a virus. One of the dangers of using pirated games is catching a virus. (Another is being caught, and having to pay a fine.) Get hold of the latest version of an anti-virus program such as 'Virus Checker' from a PD library, and check all your disks. The best way to avoid viruses is never to use any software that you can't trace directly back to source.

Q.. How can I run CP/M on my Amiga?

A. Go away Jeff, it isn't funny any more.



?Q&A??

Video

Q. When using the TV modulator, I can't get any sound out of my TV.

A. There is a small switch on the modulator, used to determine where in relation to the video signal the audio component is placed. If after switching it to its alternative position you still can't here anything, you should check the following: Is the television sound turned up? Are the leads from the Amiga to the modulator inserted correctly? Does mistunning the television slightly help?

Q. When I select Interlace mode from the Workbench Prefs or *DPaint*, the screen flickers.

A. It sure does. Unfortunately that's the way Interlace works. The only way around this problem is to buy a special card called a flicker-fixer, and a dedicated monitor (SVGA or Multiscan). The new Amigas (A3000, A1200, A4000) have integral flicker-fixers, but still need the expensive monitors. The flicker is not so noticeable if you video-tape the signal and play it back, but for most applications this is not a feasible solution. It's a trade off – you either get higher resolution and flicker, or lower resolution and no flicker.

Q. How can I improve the quality of the picture on my television screen?

A. The best way is to sell the television and buy a monitor, which has the added benefit of not being able to display Australian soaps. If this isn't possible, try the following.

- **If your TV has a SCART (Peritel) socket, buy a lead which will use the pure RGB from the Amiga instead of using the modulator. The picture will be much, much clearer.**
- **Use high quality leads. Don't try to use cheap twisted pair speaker cable to extend the video signal. Keep the leads as short as possible.**
- **Keep the leads connecting the Amiga to the TV away from the power supply and any other mains cables. Power supplies generate interference.**
- **If you have many external devices, try disconnecting them one at a time. Switch the computer off before removing them! If the picture improves it could be due to one or both of the following reasons: they are using too much power from the Amiga (get separate power supplies for the peripherals), or the peripherals themselves are generating interference.**

Workbench

Q. What are 'hotkeys' and how do I use them?

A. Hotkeys are shortcuts that save you having to select options from a menu. For example, the Workbench menu option Backdrop has a hotkey equivalent 'B'. The strange A symbol in front of the B indicates that you should hold down the left 'Amiga key' and whilst holding it down, press B. The Amiga key is the key immediately to the left of the space bar. The Backdrop option toggles the Workbench from being on a Window to being on a Screen – choose the one that you prefer.

Q. When I do a DIR at a Shell window, I've noticed a lot of files which end in '.info'. What are they for?

A. Every file which has an associated icon, has a second file of the same name, but with the .info extension. If you were to delete the .info file, the icon would vanish. Some files, for example, the C directory and its contents, don't have associated icons and so don't have any .info files. If you really want to see them in Icon form, select Show All Files from the Workbench's Window menu.

Q. How can I get more memory for my application programs?

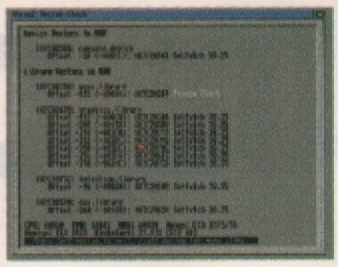
A. If the application program is running on another screen, try to select an option from one of its menus which is called something like "Close Workbench". Don't worry – it will be opened again if you leave the program. If you can't close it, use the Workbench Prefs program to alter the Workbench display to be a 200 line, 2 colour screen. This will save a sizable amount of Chip ram, and also speed up Window and Icon operations.

Q. When I try to re-define the Workbench screen, it keeps telling me to 'close windows and retry'. Why?

A. Any program which needs to access the main Workbench screen must be stopped before the screen can be re-drawn in its new size, resolution or colour scheme. This is because altering the screen alters data structures used by the application programs. If the data structures were changed without telling the programs, Woof! Instant crash. That's why you need to shut down every running program first. You need to close any Shells because they have processes running themselves. Programs running on their own screens don't need to be shut down

Q. I spend an hour tidying up the Workbench, putting all the icons were I want them. When I switch the computer on the next day, they have all moved back to where they were – why?

A. The icons and windows will only remember their positions if you use the 'Snapshot' option from the Workbench menu. Select all the items you want to snapshot – using the extended select trick of holding down the shift key if necessary – and then select Snapshot from the Icons menu.



Q. My Amiga doesn't know the time. The clock option is always wrong.

A. Some Amigas don't have internal clocks. If yours is one of these, you can add one by buying a memory expansion card with a clock option. Once they are set, they will continue to remember the time for years.

Q. I have an A500Plus/A600 and some budget games won't run.

A. This is because the programmers broke some of the programming rules. Some older games, which are typically several years old, were written before the new Amigas existed. You can try taking them back to the shop and claim a refund by bluffing about 'Trade Descriptions'.

Sound

Q. How do I improve the quality of the sound?

A. Don't put it through the television. Use standard phono leads to connect the Amiga to a hi-fi amplifier. If you don't have a nearby hi-fi, think about buying a dedicated Amiga amp and speakers. The improvement over TV sound is amazing.

Q. How do I make my own sounds for use in programs such as OctaMED?

A. You'll need to buy a sound sampler, which will allow the Amiga to digitally record sounds for your own use.

Q. Why does the power light sometimes change brightness?

A. When the power light goes dim, a program has switched off the internal audio filter. Depending on the type of sound, the filter can actually reduce playback quality.

WE'RE HERE TO HELP

There are always some things that will confuse or elude you, and that's where we can help. Just drop us a line at Q&A at the usual CU address and our experts will answer whatever you throw at them.

???Q&A??

CLUB CALL



You can do it all on your own if you're a real hard case, but calling on the support of other Amiga owners in your area has distinct advantages. Lending a helping hand to Amiga users everywhere, CU is happy to support established computer clubs using our favourite family of machines. If your club wants to spread the word about its activities, feel free to drop us a line.

CDTV USERS ASSOCIATION

113 Fouracres Road,
Newall Green,
Manchester M23 8ES.

A year old this January, the club has grown from the two friends who founded it into an organisation with more than one hundred members. It's still growing, and membership remains free (although a regular supply of stamped addressed envelopes is required).

The club has set itself several aims which will, no doubt, attract the sympathy of fellow CDTV users. It intends to:

- Supply the technical support which seems to be lacking at present.
- Encourage software houses to label Amiga titles with regard to CDTV compatibility.
- Compile a list of compatible and incompatible software.
- Promote the potential of the format to software houses and prospective customers.
- Encourage software houses to keep the price of CDs reasonable and make new products CDTV compatible.
- Provide a regular newsletter with the latest CD news, reviews, users' letters and competitions.

The chairman, Julian T. Lavanini, is also looking into the possibility of hiring CDs (due to their non-copyable nature), and selling CD hardware and software. If you want more info, Julian's the man to write to.

GLASGOW SENSIBLE SOCCER CLUB

28 Stamperland Hill,
Clarkston,
Glasgow G76 8AF.

Briefly known as the Glasgow Sports League during its formative stages, this club for devotees of Renegade's famous footy game is putting together a growing squad. With ten members already signed and a further ten prospective candidates in receipt of their application forms, team-building is proceeding apace.

A newsletter for members, 'Glasgow Sensibles', is now being published and should feature results and match reports. If you can't think of a better way to enjoy your Amiga than chasing a few pixels up and down a pitch, why not write and get details of the next match.

UK CLUB

COMMODORE PRODUCTS USERS GROUP

P.O. Box 1309,
London, N3 2UT.
Tel: 081-346 0050

In existence for 14 years, the ICPUG is a well-established organisation whose most visible presence is its well-produced newsletter. With almost 100 pages per issue, the bi-monthly magazines provide information on the C64 and PCs as well as the Amiga. Features on CDTV and heartrending articles such as 'The Day my Hard Disk Crashed', extensive coverage of programming and applications, reviews of hard and software, news, and readers' letters are all included.

Though not a club in the way that most groups featured on these pages are, many of ICPUG's widespread members have formed local clubs which meet and discuss their computers in the usual fashion. An extensive PD library is available to members, numbering 1,100 disks for the Amiga alone.

A special end of year subscription offer may still be snapped-up if you,re quick: the September/October issue (containing the articles mentioned above) and the November/December edition are available for £7. A full year's membership (including subscription to the newsletter), to begin in 1993, will cost £21 for UK residents, £25 for those of you elsewhere in Europe, and £35 for anyone outside Europe. All enquiries regarding membership of ICPUG should be directed to the Membership Secretary, Jack Cohen, at the above address.

AMIGA USER'S GROUP (FYLDE)

25 Glen Eldon Road,
Lytham St Annes
Lancashire FY8 2AX.

Here is a Lancastrian club which certainly believes in keeping in touch with its membership. Firstly, it compiles NewsDisk, a monthly on-disk magazine containing articles by members, hardware and software reviews, programming tips, PD programs, listings of second-hand goods for sale, and (surprise, surprise) news about forthcoming meetings and Amiga-related events. Secondly, it provides a telephone advice line aiming to solve equipment and software problems.

Membership, including a subscription to the NewsDisk, is available for £15 a year (£8.50 for six months), which goes towards covering the costs of this non-profit-making club. Members with modems can also access the Red Rose Bulletin Board, based in Preston, for an extra £7.50 a year. For a membership application form and further details contact Andy Wilkinson at the above address.

AMIGA 500+ CLUB

3 Islay Court,
Irvine,
Ayrshire KA11 4JQ.

Clearly committed to providing its members with access to the sort of hardware and software they might not otherwise be able to use, the Amiga 500+ Club has recently purchased a real time frame grabber to complement its colour video camera. The range of facilities now available includes assistance in getting both colour IFF and HAM files for use with DTP programs, and the conversion of slides, negatives, photographs, video and cine film. These services are free to members, who only have to pay for a disk and postage. Completely free off-line printing will also be provided following the purchase of an H.P. IIIP laser printer. Furthermore, the club plans a bulletin board for the near future.

THE GURU MASTERS

111 Sherborne Road,
Bushbury,
Wolverhampton WV10 9EU.

An unusually-named club which is actually a demo group producing utility and demo compilations, digitised slideshows, sampled songs and remixes (they are currently working with some songs by a group called Purple Mouse, which I am assured are very funny). In existence for two years, and with a membership of twenty, The Guru Masters are working towards full coding of demos and would particularly welcome new members with knowledge of this field, and of music and graphics. Enquiries should be directed to 'The Sheriff' at the above address.

AMOS PROGRAMMERS CLUB

6 Brassey Avenue,
Broadstairs,
Thanet,
Kent CT10 2DS.

A recently-established club which, as its name suggests, hopes to assist people learning the AMOS programming language, and provide a forum in which AMOS users may swap ideas. The club organiser compiles a disk magazine for members that includes example programs, samples and, naturally, help with AMOS. Future plans include the establishment of a free PD network to allow members to exchange programs. Details from the above address.

The club is very well supported by well known programmers who regularly creat demos and tutorials.

COMMODORE AMIGA USERS GROUP

85 Highfields Road,
Witham,
Essex CM8 1LW.

Although this club is interested in more than gaming, it started just over a year ago when a group of friends gathered to run competitions on Kick Off II and Stunt Car Racer. Hundreds of cheats are currently being compiled by the club and put on disk, making just the sort of reference material keen gamers are eager to get hold of. The thirty members also share PD programs and magazines, and an on-disk newsletter is being established for them.

THE KENT YOUTH COMPUTER GROUP

The North Youth Centre,
Essellar Road,
Ashford, Kent..

In September this club moved its meeting place to a purpose-built computer room at the above address. Meetings take place on Tuesdays and Thursdays, between 6.30pm and 9.30pm, with a 50p entry fee (40p to existing youth club members. Other computers are covered besides the Amiga.

PERTH AND DISTRICT AMATEUR COMPUTER SOCIETY

14 Imrie Place
Hillyland
Perth PH1 2QN

Covering the Perth (that's Perth, Tayside by the way, not Perth Australia) region, this club meets every month to discuss all things computer related, including all types of Amiga.

Talks are given on a range of subjects interesting to Amiga users, such as the pros and cons of buying a CDTV, animation, MIDI, programming and info on the best peripherals to buy.

There are regular workshops and demonstrations of all kinds. Members are free to use the clubs rather extensive PD library for immediate access to programs covering a whole range of applications.

A bulletin board is being established so members can access all the hints, tips and software of the club without ever having to leave the comfort of their own computer.

Membership costs, at the moment , £6 per annum . If you live in the Perth area it may be well worth your while going along one evening as a guest to try out the club before you join.

Send an SAE to the above address for furthe details and dates of when the club meets.

ROUND UP

GLOSSARY

There are quite a few things that may be a little confusing at first. Probably the most mystifying is why everyone seems to be speaking an entirely different language when it comes to computers. To help you here is a brief list of the important terms you may come across in this magazine and elsewhere.

Accelerator This is a hardware device which enables your machine to run faster. They are very useful if you run a lot of programs which require heavy processor time, such as graphics work, DTP and raytracing.

Active A window is said to be active if it is the currently selected task. You can make a task active by clicking on its window with the mouse button.

AmigaDOS The disk operating system of the Amiga. The DOS provides the basic functions necessary for the computer to work.

Application The name given to a program which is used for a specific task. Applications include software like Art packages, Word processors etc.

Archive An archive is a way of storing information which is not needed immediately in a space efficient manner. Archived files take up much less room, but they must be unarchived again before use. Popular archivers on the Amiga include LHA, LHArc, Zip and Zoo.

Argument This is a parameter passed to a program to give it further information about its task. For example 'LHA x plop' tells the LHA program to extract files from the archive called 'plop'. See also editorial discussion.

ASCII The standard format for text storage on any computer. ASCII text is almost universally transferable between machines and applications on any system.

Backup A security copy of information, cunningly made in case of any accidents with the original.

Bitplane A block of memory containing one bit of information for a graphics screen. See page 16.

Boot To start up the machine from scratch, 'booting' from the software currently in the disk drive.

Bootable A disk which the machine is able to boot up from is said to be bootable. To do this the disk must have been 'installed' or copied from a bootable disk.

Buffer A temporary storage area in memory, used to speed up operations.

Bug A mistake in either software or hardware which causes programs to malfunction.

Close Gadget A small box which may be present in the upper left of a window. Clicking on it closes the window.

Chip RAM Also called Graphics memory, this is the area of the computer's memory which can be directly accessed by the custom chips.

Coprocessor Effectively an extra brain for the computer, the Coprocessor is usually designed for a specific task, e.g. a maths coprocessor, which speeds up floating point calculations.

Dithering This is the name given to the technique in graphic displays of creating smooth transition phases between two colours by alternating them to varying degrees in the spaces in between.

Drawer The name given to subdirectories on Amiga disks.

ECS The Enhanced Chip Set. The redesigned custom chips of the Amiga, present in the A500+ and A600.

Execute To carry out instructions in a CLI, program or script file.

Extended selection The process of selecting more than one file at once, achieved by holding down shift whilst making multiple selections with the mouse. All files chosen should remain highlighted.

Fast RAM Any memory accessed by the Amiga which is not Chip RAM.

File A collection of data stored in an organised fashion on a disk or in RAM

Font The name given to a character set or typeface used by the Amiga. All the available fonts are to be found in the 'Fonts:' directory.

Format To prepare a disk for use by the computer. Organisational data is recorded onto the disk so that it can be recognised by AmigaDOS

Gadget An area of the screen which will initiate some command or function when clicked with the mouse.

Genlock A device which enables the user to overlay Amiga graphics onto a video image from another source.

GUI Graphical User Interface, an alternative name for a WIMP system. See page 8.

HAM Hold and Modify. A graphics mode used by the Amiga to display 4096 colours. See page 18.

Hard disk This is a device in which data is stored in a similar way as it is on floppies. A hard disk uses a rigid platter and is often a collection of disks on the same spindle. They generally hold far more data than a floppy disk and are much faster.

Hot key The name given to a keyboard shortcut in an application to initiate a desired function. These are usually a combination of keys such as Amiga-Q for quit, etc.

Interlace A screen mode used by the Amiga which doubles its vertical resolution. Unfortunately it is not possible to view this mode without excessive flickering, unless you own a special monitor or a flicker-fixer hardware device.

Kickstart This is the name given to the Amiga's ROM which contains part of the operating system.

Library A set of functions stored in a file which may be accessed by other programs.

Menu A list of on-screen options which drop from the top of the screen when the right mouse button is pressed on the title bar.

Menu item An option that appears on a menu list.

Monitor A dedicated computer display device.

Multi-tasking The ability to perform more than one operation at the same time. The Amiga has a true multi-tasking operating system.

Overscan A technique whereby the screen resolution is increased to take better advantage of the width of the video signal.

Parallel An interface port which is normally used by any printer or sampler you may have connected.

Partition An area of space on a hard disk. They are often broken up into partitions, which act as separate devices, in the interests of speed and security.

Peripheral An external piece of hardware which is used with the computer.

Pointer The graphic image which acts as a cursor on the Workbench screen.

Preferences The name given to a collection of programs on the Amiga which allow you to alter the Workbench environment to suit your needs.

Qualifier A key which is pressed in conjunction with another to denote a special action. Common qualifiers used are the Amiga keys, shift, Ctrl and Alt.

RAM The memory of the computer into which programs and data are loaded for execution or processing. RAM is volatile and all the contents will be lost when the machine is turned off.

RGB Red Green Blue. This is a type of video signal which allows exceptionally clear displays. The Amiga provides an RGB signal from its video port.

ROM A memory store just like RAM except the contents are permanent and will remain in ROM even when no power is supplied. ROMs are generally used for storing a computer's operating system.

Root Block The area of a disk which contains important directory information.

Reboot To restart the computer, either by turning it off and then on again, or by using the reset key combination of Ctrl and both Amiga keys.

Script A file containing a list of commands in ASCII format. This may be executed as a program by AmigaDOS

Serial An interface which is commonly used for communications devices such as modems or network cards.

Snapshot A method of preserving the position of an icon.

Toggle An option which can be switched between two states, usually on and off.

Trashcan A special directory on a disk into which unwanted items are placed. They are permanently removed only when the trash is emptied, using the appropriate selection from the Workbench menus.

Volume An alternative term used to describe a floppy disk or hard disk partition.

Window A rectangular screen area which can accept or display information. Windows can often be moved, pushed to the front or back of the screen and resized.

Workbench The name given to the WIMP operating system used by the Amiga.

Xylophone An annoying musical instrument which, thankfully, has nothing to do with the Amiga.

Yorkie A chocolate bar particularly enjoyed by men operating industrial machinery. See above.

Zoom gadget A gadget which may appear in the upper right of a window, allowing it to swap between two sizes.